DOCUMENT RESUME

ED 434 201 CE 078 512

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TITLE	Adult Education in the 1990s: A Report on the 1991 National Household Education Survey. Working Paper Series.
INSTITUTION	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-WP-98-03
PUB DATE	1998-02-00
NOTE	86p.
AVAILABLE FROM	U.S. Department of Education, Office of Educational Research and Improvement, National Center for Education Statistics, 555 New Jersey Ave., N.W., Room 400, Washington, DC 20208-5654. Tel: 202-219-1831.
PUB TYPE	Numerical/Quantitative Data (110) -- Reports - Research (143)
EDRS PRICE	MF01/PC04 Plus Postage.
DESCRIPTORS	*Adult Education; Educational Background; Educational Needs; Educational Research; *Employer Employee Relationship; Enrollment Trends; Higher Education; National Surveys; *Participant Characteristics; *Participation; *Student Financial Aid

ABSTRACT

The 1991 National Household Education Survey adult education component, a household-based data collection, provided estimates of adult education participation. About 32 percent of adults participated in adult education during the prior 12 months to the 1991 survey. Adults 25-54 years old, persons with a bachelor's degree or higher, and employed persons tended to participate at a higher rate. More than one-half were female; most were white. Nearly 60 percent of course taking was to improve or advance in a current job--a pattern more evident for males than females. Almost 65 percent of course taking by employed persons was to improve or advance in current jobs; 58.9 percent by those not in the labor force was for personal or social reasons; and 82 percent by unemployed persons was a requirement for a degree or diploma, training for a new job, and job improvement or advancement. Men were more likely to take courses provided by business and industry, women to take courses provided by four- or two-year colleges. Labor unions and professional associations were among the larger providers to persons working in management and professional fields. Common sources of financial support were the business community or participants. Over 60 percent of all course taking had some type of employer involvement. Nonparticipants were less likely to report barriers to participation. Work schedules, meeting times, costs, and family responsibilities were among the barriers identified. (Technical notes are appended.) (YLB)

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Working Paper Series

Adult Education in the 1990s: A Report on the 1991 National Household Education Survey

Working Paper No. 98-03 February 1998

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Suggested Citation

U.S. Department of Education. National Center for Education Statistics. *Adult Education in the 1990s: A Report on the 1991 National Household Education Survey*, Working Paper No. 98-03, by Teresita L. Chan Kopka, Nancy Borkow Schantz, and Roslyn Abrevaya Korb. Project Officer, Peter Stowe. Washington, D.C.: 1998.

February 1998

Foreword

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Adult Education in the 1990s:

A Report on the 1991 National Household Education Survey

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National Center for Education Statistics

February 1998

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Preface

Adult education has for decades played a significant, if sometimes overlooked, role in our society. In today's world, however, adult education takes on even greater importance as the pressures of a fast-changing world force us to continually learn new skills in order to compete in the workplace and to cope with and grow from the pressures and challenges of everyday life. The National Education Goals Panel that was convened in 1989 recognized the importance of lifelong learning and the need for training and retraining the nation's workforce to meet the demands of global competition. Thus, it is important to take a closer look at the status of adult education because it will inevitably become increasingly important as we face the challenges of the 21st century.

The Adult Education component of the 1991 National Household Education Survey (NHES:91) permits us to provide policymakers and educators with a closer look at participation in adult educational activities. The NHES is the first major attempt by the National Center for Education Statistics (NCES) to collect data directly from the general public. This is an exciting new initiative for NCES because a household survey provides the opportunity to explore educational issues from a perspective different from institutionally-based data collection activities. Toward this effort, close to 60,000 households were contacted, and about 18,500 households were screened for the Adult Education component. In those households, over 12,000 adults were interviewed regarding their participation in all types of educational activities. It is hoped that findings presented here will create new insights and stimulate further study in the area of adult education and job-related training.

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Acknowledgments

The authors would like to thank Clifford Adelman, Nevzer Stacey, and Duc-Le To, Office of Research, OERI, for their invaluable contribution to the planning and development of this report. Their input at several critical points during the preparation of the report added greatly to its substantive and technical quality. Appreciation also is extended to Paul Barton, Educational Testing Service, and Alice Grindstaff, American Society for Training and Development. Their review and recommendations provided further substantive expertise in the area of adult education and job-related training. Additionally, we thank several NCES staff, including Kathryn Chandler, the National Household Education Survey (NHES) Project Officer, and Gayle Rogers for their extremely thorough technical review; Martha Hollins and Samuel Barbett, for their creativity and diligence in providing technical assistance and computer support; and Linda Zimbler, Susan Ahmed, and Suellen Mauchamer, who were called upon, often at very short notice, to provide substantive input and technical expertise at various stages throughout the development of the report. A final note of thanks is due to Anne Meek of the Education Statistics Services Institute and Anita Wright of the Information Design Center, both of the American Institutes for Research, whose editorial and graphical skills substantially enhanced the quality, accuracy, and readability of the final report.

Highlights

This report presents data from the Adult Education component of the 1991 National Household Education Survey (NHES:91), a household-based data collection designed to provide estimates of participation in adult education. For the purposes of this report (unless otherwise stated) adult education is defined as part-time participation in any educational activity (including part-time college) by an individual 17 years old or older. Thus, the inference population for estimates in this report includes all noninstitutionalized civilians, 17 years old or older, not enrolled full time in elementary or secondary school at the time of the survey. Selected highlights from the report are presented below:

Adult Education Participation Rates and Characteristics of Participants

- Approximately 32 percent of adults 17 years old or older participated in some type of adult education during the 12 months prior to the NHES:91 survey (conducted January–May, 1991). However, adults 25 to 54 years old, persons with a bachelor's degree or higher, and employed individuals, tended to participate in adult education at a higher rate than participants as a whole. For instance, participation rates for adults 25 to 54 years old ranged between 37 percent and 39 percent, participation rates for persons with a bachelor's degree or higher ranged between 51 percent and 55 percent, and the participation rate for employed individuals was 41 percent.
- More than one-half of adult education participants were female (54.8 percent), and most were white (82.6 percent); however, 8 percent were black and 7 percent were Hispanic. While most participants were between the ages of 25 to 54 (74.4 percent), about 12 percent were 24 years old or younger, and about 13 percent were 55 years old or older. Additionally, 82 percent were employed at the time they responded to the survey, about 4 percent were unemployed, and approximately 14 percent were not in the labor force.

Adult Education Courses and Participation

- Adult education participants took, on average, almost three adult education courses* during the 12 months prior to the survey. However, most participants (44.1 percent) took one adult education course, 22 percent took two courses, and 15 percent took five or more courses.
- Adult education course taking* lasted, on average, 5 weeks; and class time averaged 11 hours per week. However, most course takings (52.9 percent) lasted 1 week or less, meeting on average 14 hours per week.

Reasons for Participating in Adult Education

- Close to 60 percent of all adult education course taking was to improve or advance in a current job. This pattern was more evident for males than females: 66 percent of the course taking by males and 51 percent of the course taking by females was to improve or advance in a current job.

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* It is important to distinguish the properties of courses from the properties of course takings or participation in adult education activities. For a detailed explanation, see "The Treatment of Courses and Course Characteristics," p. 54, in the appendix.

- Almost 65 percent of the course taking by employed individuals was to improve or advance in their current jobs; however, a high percentage of course taking by individuals not in the labor force (58.9 percent) was for personal or social reasons. In contrast, of the course taking by unemployed individuals, 35 percent was to complete a requirement for a degree or diploma; 27 percent was to train for a new job; and 20 percent was for job improvement or advancement.
- While a small proportion of adult education course taking was by blacks and Hispanics (10.0 and 5.6 percent, respectively), 24 percent of the course taking to improve basic skills was taken by blacks and 22 percent was taken by Hispanics.

Providers of Adult Education

- The majority of adult education course taking was in courses provided by 4- or 2-year colleges or universities or businesses (30.6 and 27.1 percent, respectively). Federal, state, and local governments provided another 11 percent, and other groups or organizations each provided less than 10 percent of all adult education courses.
- Of the course taking by men, 35 percent was in courses provided by business and industry, while 21 percent of the course taking by women was in courses provided by the business community. However, course taking by women was more likely than that by men to be in courses provided by 4- or 2-year colleges or universities. Of the course taking by women, 34 percent was in courses provided by 4- or 2-year colleges or universities, while 27 percent of the course taking by men was in courses provided by 4- or 2-year colleges or universities.
- Labor unions and professional associations were among the larger providers of adult education to persons working in management and professional fields at the time of the interview or in a most recent working situation if not currently working; however, they were one of the smaller providers to persons working in other occupations. Of the course taking in courses provided by labor unions and professional groups, over one-half (54.4 percent) was by persons in management and professional specialties; fewer course takings (28.6 percent) were by persons in technical, sales, and administrative support occupations, 9 percent was by persons in service occupations, and another 8 percent was divided by persons in occupations with precision products or crafts, and laborers, farm or forest workers occupations.

Financial Support and Cost to Participants

- Common sources of financial support for adult education were the business community (36.6 percent) or the participants themselves (35.1 percent). State and local governments contributed financing to about 13 percent of all adult education courses, private organizations contributed financing to about 6 percent, and the federal government contributed support to approximately 5 percent. About 9 percent of adult education courses were reported to be given free of charge.
- Forty-one percent of the course taking by persons employed at the time of the survey was financed, to some degree, by business and industry, while only 7 percent of the course taking by persons unemployed at the time of the survey was paid for, at least in part, by business and industry. Course taking by persons not in the labor force was among the most likely to be financed by themselves or their families; about 53 percent of their course taking was paid for, at least in part, by themselves or their families. Interestingly, of the course taking receiving financial support from the federal government, over 80 percent (83.6 percent) was taken by employed individuals; only about 6 percent was taken by the unemployed.
- Participants who reported that they or their families had paid at least some portion of their adult education themselves were asked about the tuition and fees paid. For about 30 percent of course takings, individuals paid tuition and fees of less than $50. However, for about 40

percent of course taking, individuals or their families paid between $100 and $499; and for about 13 percent, individuals or their families paid $500 or more.

Employer Support in Adult Education

- Over 60 percent (63.2 percent) of all adult education course taking had some type of employer involvement. For 44 percent of the course taking, employers provided adult education participants with time off. In addition, 34 percent of the course taking was provided by the employer, 28 percent was provided on-site at the participant's place of employment, and 25 percent was employer-required courses.
- While 72 percent of the course taking by men had some employer involvement, substantially less (56.2 percent) of the course taking by women had some employer involvement. The data show that employers provided time off for 52 percent of the course taking by men, while providing time off for only 38 percent of the course taking by women. Employers also contributed financial support to 57 percent of the course taking by men, while contributing financial support to only 43 percent of the course taking by women. This pattern, however, may be at least in part explained by the fact that there are more men employed than women.
- Looking across industries, course taking by persons in the transportation and utility industries was more likely to have employer support than course taking by participants, as a whole. For instance, of course taking by persons in the transportation and public utilities industries, 76 percent had some employer involvement, about 46 percent was provided by the employer, 35 percent was held on-site, 37 percent was employer-required, 63 percent was paid, at least in part, by employers, and time off was given for 59 percent. Course taking by persons in the wholesale/retail industry was the least likely to be supported by their employers. For example, of the course taking by persons in the wholesale/retail industry, 52 percent had some employer involvement, only 26 percent was employer-provided, 20 percent was given at work, and about 31 percent was financed, to some degree, by the participant's employer.

Barriers to Participation in Adult Education

- Surprisingly, nonparticipants in adult education were less likely than participants to report barriers to participation in adult education (56.8 and 70.0 percent, respectively). However, this was not true for all nonparticipants. For instance, female nonparticipants with dependent children under 16 years old, younger nonparticipants (34 years old or younger), and unemployed nonparticipants were among the most likely of all adults to report barriers to participating in adult education.
- Among the most commonly cited barriers to participation in adult education for both participants and nonparticipants were "work schedules," "meeting times," "costs," and "family responsibilities."
- While both participants and nonparticipants faced similar obstacles to participating in adult education, a higher percentage of participants than nonparticipants cited "work schedules" (41 vs. 32 percent), "meeting times" (36 vs. 24 percent), "costs" (34 vs. 27 percent), and "family responsibilities" (30 vs. 23 percent) as barriers to participation in adult education.

Chapter I: Introduction

Background

This report presents estimates based on data from the Adult Education component of the 1991 National Household Education Survey (NHES:91),[1] a household-based data collection designed to provide estimates of the educational experience of adults 16 years old or older.[2] The NHES:91 is the first major attempt by the National Center for Education Statistics (NCES) to collect data directly from the general population. This type of data collection offers an opportunity to explore educational issues from a different perspective than institutionally-based data collection efforts. The NHES:91 has the potential to bring new insights to the area of adult and continuing education, job related training, and home-based education.

The Adult Education component of the NHES:91 incorporates and expands upon earlier adult education surveys conducted by the Census Bureau for NCES.[3] Traditionally, adult education has been defined as part-time participation in any educational activity by adults 17 years old or older. However, it has been argued that this definition is too narrow and that the definition of adult education should include ***all*** educational activities that adults participate in, regardless of the adult's full- or part-time enrollment status.

To provide analytic flexibility on defining adult education, the NHES:91 collected data on the educational experiences of all adults. The sample of the Adult Education component included persons enrolled full or part time in a college, vocational, or occupational program; persons taking continuing education or noncredit courses, correspondence courses, and tutoring; as well as those persons participating in other education activities provided by business and industry, community groups, including churches, labor unions, professional associations, and other private organizations. The NHES:91 also sampled adults not engaged in any educational activity. These nonparticipants were questioned about the barriers to their participation in adult education and were asked a series of demographic and labor force participation questions. This comprehensive sample will enable researchers to explore various combinations of adult educational activities and to define adult education in many ways.

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[1] The NHES:91 consists of two survey components—the Adult Education component and the Early Childhood component. This report presents data on the educational activities of adults; however, two NCES Statistics in Brief publications focus on early childhood education: "Experiences in Child Care and Early Childhood Programs of First and Second Graders" (January 1992) and "Home Activities of 3- to 8-year-olds" (January 1992). For a copy of the Adult Education survey instrument and survey procedures, see the *National Household Education Survey: Adult and Course Data Files User's Manual*, U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, April 1992.

[2] For the purposes of this report, adults are defined as all noninstitutionalized civilians, 17 years old or older, not enrolled full time in elementary or secondary school at the time of the survey. While the Adult Education component of NHES:91 collected data on 16-year-olds, this report excluded 16-year-olds from the analysis in order to be consistent with traditional definitions of adult education participants.

[3] The Census Bureau surveyed participation in adult education for NCES in the May supplement to the Current Population Survey (CPS) on a triennial basis from 1969 to 1984. Comparisons between estimates from the NHES:91 and CPS are available in an internal NCES technical memorandum and will be published in a forthcoming technical report.

Methodology

The NHES:91 survey is designed to be representative of all civilian, noninstitutionalized persons in the 50 states and the District of Columbia. The sample was selected via random-digit-dialing (RDD) techniques, and the data were collected using computer-assisted telephone interviewing (CATI) procedures. Data collection took place between late January and early May of 1991.

Two different survey instruments were used to collect data for the Adult Education component of NHES:91. The first survey—a household screener—was administered to an adult in each of 18,463 households and was used to identify all adults over the age of 15, including those persons living away from home in school housing. The screener asked respondents about each adult in the household and his or her educational participation over the last 12 months. Once participation status was determined via the screener, this information was used to select the sample for the second survey—the adult education interview. The response rate for the screener survey was 81 percent. The completion rate for the adult education interview, or the percentage of interviews conducted, was 85 percent. The overall response rate for the Adult Education component—that is, the product of the household screening response rate and the Adult Education survey completion rate—was 69 percent. For further information regarding data collection procedures, response rates, the accuracy of the estimates, and definitions of the variables used in this report, see appendix A, technical notes.

Interpretation of Findings

The estimates in this report are based on a sample of households rather than a census. As a result, they are subject to sampling error. Some estimates have relatively high sampling errors, particularly those based on individuals who comprise small proportions of the adult population. While the sample was designed to minimize sampling error for some small groups, the reader is urged to apply appropriate tests of significance to estimates contained in this report before interpreting results or forming any conclusions. For example, black and Hispanic households were oversampled in an attempt to ensure reliable estimates of black and Hispanic participation in adult educational activities. However, the standard errors of the estimates of the characteristics of these participants are still relatively high. This is because blacks and Hispanics represent only a small proportion of the adult population and an even smaller proportion of the adult education population (8 and 7 percent, respectively) (see table 2.2). Standard errors for estimates of the characteristics of the racial/ethnic category labeled "other" (i.e., Asian or Pacific Islander, Native American or Alaskan Native, or some other race) are also high, due to low representation in the adult education population (i.e., together, these populations represent only 2 percent of the adult education population). Consequently, while differences in estimates displayed throughout this report for whites and minorities may appear large, generally the observed differences are not statistically significant. It should be noted that all differences cited and all comparisons made in this report are significant at the 0.05 level of significance as determined by appropriate t-test procedures. See appendix A, technical notes, for a more detailed discussion of the statistical procedures followed in this report.

Approach

This report highlights some of the more significant findings from the Adult Education component of the NHES:91. It focuses on a description of participants in adult education, reasons for participating in adult education, providers, sources of financial support, cost to participants, employer involvement, and barriers to participation. Table 2.1 and figure 2 include individuals 17 years of age or older who were only enrolled full time in college and other postsecondary education, as well as those

participating part time, in order to provide the reader with a contextual perspective. The rest of the report examines adult education in the traditional way and includes only individuals who were engaged in any part-time educational activity, including part-time attendance in a postsecondary institution. Thus, for the purposes of this report, adult education is defined as part-time participation in any educational activity by adults 17 years old or older. Additionally, while the NHES:91 collected data on participation in adult education during three distinct time frames (i.e., at any time during the 12 months prior to the survey, at any time during the 3 years prior to the survey, or at any time ever), the focus of this report is limited to participation in adult education during the 12 months preceding the survey.

Specifically, chapter II describes participants in adult education, including those who participated in any educational activity during the 12 months prior to the survey, by selected demographic and labor force characteristics. Chapter III looks at the total and average number of courses taken and the distribution of participants, by number of courses taken; the average length and intensity of adult education course takings; and participation in noncredit courses, by type of course, selected providers, and selected demographic and labor force characteristics of participants. Chapter IV discusses reasons for participating in adult education, providers of adult education, sources of financial support, and cost for participants, by selected demographic and labor force characteristics of participants. The data in Chapter IV are presented in terms of adult education course taking rather than the participant and asks "of the courses taken..." what the motivation was, who the providers were, who the sources of financing were, and what the costs to participants were. Chapter V focuses on the role of employers in adult education in terms of their financial support for course taking and other types of involvement, by selected demographic and labor force characteristics. This chapter also presents the data from the perspective of course taking rather than participants and asks "of the courses taken..." what support employers provided. Chapter VI describes the barriers to participation in adult education from the perspective of both participants and nonparticipants. Finally, chapter VII ties the findings together by summarizing and synthesizing common themes that run throughout the report.

Chapter II: Adult Participants in Education

This chapter examines the characteristics of adult participants in educational activities from three different perspectives. The first perspective includes individuals who participated in ***any*** educational activity, regardless of full- or part-time attendance status during the 12 months preceding the survey. Because of the time period covered (12 months), a single individual could have participated in several different types of educational activities over the course of the year. He or she could have enrolled in college on a full-time basis and then a part-time basis. He or she could have been enrolled full time in a vocational program, taken a course provided by a community service organization like a library or museum, and received on-the-job training provided by his or her employer. A large number of such combinations of educational and training experiences are possible.

Figure 1 displays some of the more interesting combinations of adult educational activities; and it illustrates the proportion of adults who reported having participated in various educational activities. Three major categories of educational activities are considered in the diagram—full-time attendance in a college or university (4- or 2-year college); full-time enrollment in any other type of educational activity, such as vocational training, training in English as a Second Language, training for a General Education Development (GED) test, etc.; and part-time participation in any type of education or training provided by any type of provider, including colleges and universities, employers, community organizations, and state and local education agencies. The overlapping areas in the figure indicate the percent of individuals reporting more than one of these three types of educational activities.

When selected combinations of the major types of educational activities are considered, the percentages shown in the total line of table 2.1 result. That is, in the 12 months preceding the survey, 8 percent of adults in the United States were enrolled full time in a college or university; 2 percent of adults participated full time in some type of educational activity other than college; 4 percent were part-time students in a degree program at a college or university; and close to 30 percent were engaged in other part-time educational activities. When selected demographic and labor force characteristics are considered, it is evident from table 2.1 that adults enrolled full time in college tended to be young (17–24 years old), with no dependent children under 16 years old and to have had some college at the time of the survey. Individuals enrolled part time in an educational activity other than college tended to be between 25 and 54 years old, have a bachelor's degree or higher, and to be employed at the time of the survey. Part-time college students in a degree program, on the other hand, were more likely to have had some college or a college degree and were just as likely to be working as unemployed.

The second perspective considers adult education in the more traditional sense and includes adults who participated in any ***part-time*** educational activity (including part-time college) during the 12 months prior to the survey, regardless of whether they also had attended full time during this period. Individuals who only attended full time during this time period were excluded from this perspective. Table 2.2 presents the percentage of adults 17 years old or older who participated in adult education, by selected demographic and labor force characteristics. It indicates that approximately 32 percent of adults 17 years old or older participated in adult education during the 12 months preceding the survey. The participation rate remained the same regardless of gender. However, some differences in the participation rate were apparent when examined by other characteristics (figure 2 and table 2.2).

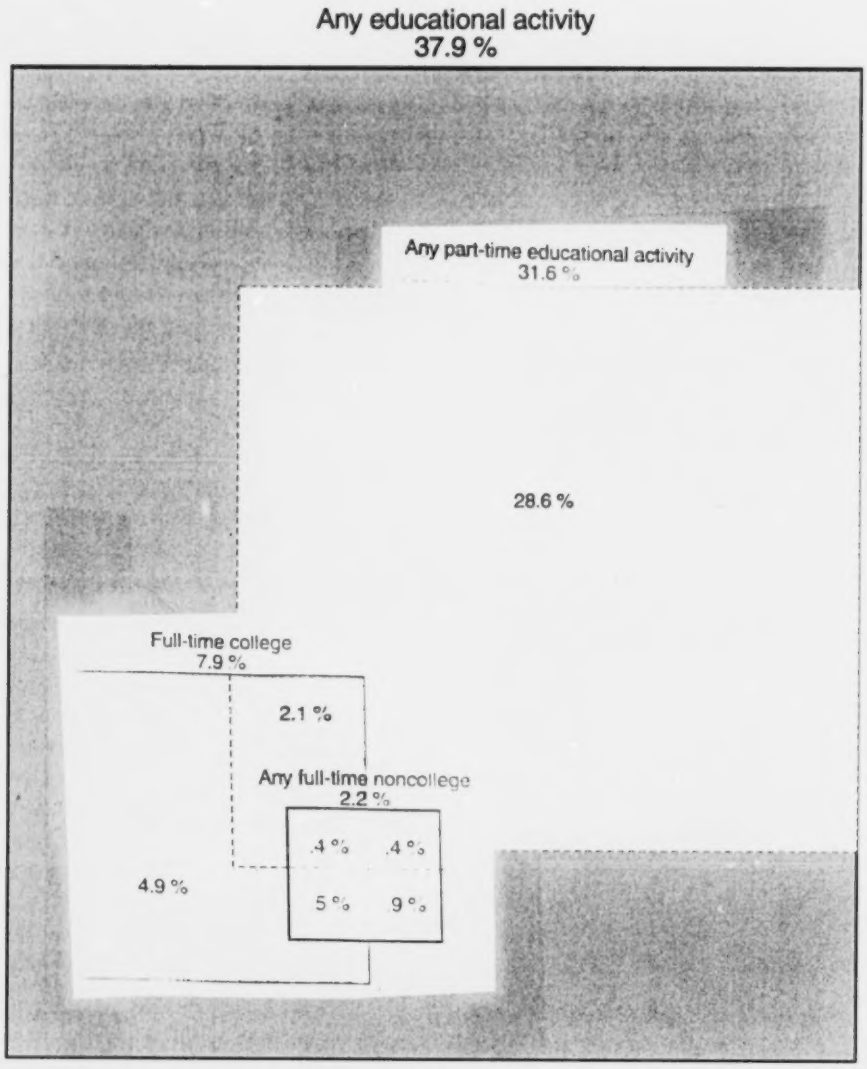
For example, participation rates for adults 25–54 years old ranged between 37 percent and 39 percent (i.e., between 5 percentage points and 7 percentage points higher than the participation rate for all adults). In addition, persons with more years of formal schooling tended to participate in adult education at a higher rate than persons with fewer years of school. In fact, over 50 percent of adults with a bachelor's degree or higher participated in adult education during the 12 months preceding the

survey (table 2.2 and figure 2). In contrast, about 39 percent of persons with some postsecondary education,[4] and only about 19 percent of adults with a high school degree or less, participated in adult education during this time. Participation rates also varied by employment status. For instance, participation rates for employed individuals were about 41 percent, while the participation rate for unemployed individuals was about half that of the employed (21.4 percent) (table 2.2).

The third perspective also defines adult education in the traditional sense (i.e, part-time participation). However, in this case the data describe not the participation rate, but the distribution of participants in adult education, by selected demographic and labor force characteristics. For example, table 2.2 shows that slightly more than half of all participants were female (54.8 percent), about 83 percent were white, and most were between the ages of 25 and 54 (74.4 percent). In terms of labor force characteristics, about 82 percent of the participants were employed at the time they responded to the survey, and 14 percent were not in the labor force.

[4] In this case, the category "some postsecondary education" includes vocational/technical school, some college, or an associate's degree.

Figure 1.—Percentage of adult population engaged in specified types of educational activities at some time in a 12-month period: United States, 1990–91



NOTES: Adult population is defined as the noninstitutional, civilian population, 17 years of age and older, excluding those currently enrolled full time in elementary or secondary schools at the time of the survey. Overlapping areas indicate the percent of individuals reporting more than one of three types of educational activities: full-time college, full-time noncollege, and part-time activity. Percentages in this figure are taken from unpublished data. Figure is not to scale.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Table 2.1.—Number of adults and percent of adults who participated in any educational activities over a 12-month period, by selected demographic and labor force characteristics: 1991

Selected characteristics	Total adults[1] (thousands)	Participation in educational activities (in percent)[2]			
		Full-time college	*Full-time other*	*Part-time college*	*Part-time other*
Total	181,800	7.9	2.2	3.9	29.7
Sex					
Male	82,154	7.8	1.9	3.5	29.8
Female	99,646	8.0	2.5	4.2	29.6
Male					
With children under 16	30,350	2.8	1.6	3.4	35.6
None	51,804	10.6	2.1	3.6	26.5
Female					
With children under 16	38,518	4.7	3.5	5.0	34.4
None	61,128	10.0	1.8	3.8	26.5
Race/ethnicity					
White, non-Hispanic	143,144	7.4	1.8	4.0	31.3
Black, non-Hispanic	20,141	9.7	4.1	3.2	21.1
Hispanic	13,804	7.5	3.2	3.6	27.3
Asian or Pacific Islander	2,738	17.1	4.2	6.4	28.4
Other	1,973	13.1	5.3	6.6	20.9
Age					
17-24	21,688	45.8	7.8	7.9	28.0
25-34	47,244	6.3	2.6	5.8	34.4
35-54	63,940	2.1	1.5	3.9	37.9
55 or older	48,927	0.2	0.3	0.4	15.2
Highest grade or year of school completed					
Up to 11th grade	27,744	0.9	1.6	0.5	11.4
High school diploma or equivalent	67,129	3.9	2.4	2.1	21.3
Vocational/technical school	6,994	1.0	3.1	1.3	31.2
Some college	36,823	22.5	3.4	7.7	35.5
Associate's degree	5,034	7.6	2.0	7.0	45.8
Bachelor's degree	23,545	7.5	1.2	6.0	48.2
Postbaccalaureate school	14,531	6.5	1.1	5.9	52.7
Labor force status					
Employed	115,620	8.0	2.0	5.2	38.5
Unemployed	9,820	13.8	6.5	3.9	19.2
Not in labor force	56,361	6.7	1.8	1.2	13.5
Occupation					
Managerial and professional specialty	32,597	7.3	1.7	6.7	49.9
Technical, sales and administrative support	65,187	10.3	2.1	4.3	32.5
Service occupations	27,727	10.5	3.7	3.7	20.9
Precision production, craft and repair	29,490	3.3	2.1	2.0	20.9
Operators, fabricators, laborers, farm and forest workers	12,944	5.7	1.2	1.6	18.1
Industry					
Agriculture, mining, forestry and fishing	6,632	3.1	0.7	0.9	19.0
Construction	7,537	5.1	2.2	2.1	21.6
Manufacturing	28,397	3.4	1.5	3.1	27.9
Transportation and public utilities	9,359	4.3	1.9	3.0	29.9
Wholesale and retail	28,202	14.3	3.0	4.1	24.8
Finance, insurance and real estate	9,792	6.0	1.8	5.0	42.6
Services	54,924	11.2	2.7	4.9	34.3
Government	19,907	4.5	1.4	5.0	36.2

[1] Adults are defined as noninstitutionalized civilians, 17 years old or older, who were not enrolled full time in elementary or secondary school at the time of the survey.

[2] Because participants could have been involved in more than one educational activity at a time, the data in this table represent duplicated counts of participants. See table 2.2 for unduplicated participation rates of adult education participation.

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SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

Table 2.2.–Number of adults 17 years old or older, percentage distribution, and rate of participation in adult education over a 12-month period, by selected demographic and labor force characteristics: 1991

Selected characteristics	Total adults [1] (thousands)	Participation in adult education	
		Percentage distribution	*Participation rate*
Total	181,800	100.0	31.6
Sex			
Male	82,154	45.2	31.6
Female	99,646	54.8	31.6
Male			
With children under 16	30,350	43.0	36.7
None	51,804	57.0	28.5
Female			
With children under 16	38,518	45.1	36.9
None	61,128	54.9	28.2
Race/ethnicity			
White, non-Hispanic	143,144	82.6	33.1
Black, non-Hispanic	20,141	8.0	22.8
Hispanic	13,804	7.0	29.2
Other	4,711	2.4	29.1
Age			
17-24	21,688	12.4	32.9
25-34	47,244	30.5	37.1
35-54	63,940	43.9	39.4
55 or older	48,927	13.1	15.4
Highest grade or year of school completed			
Up to 11th grade	27,744	5.7	11.7
High school diploma or equivalent	67,129	26.3	22.5
Vocational/technical school	6,994	3.9	31.7
Some college	36,823	25.2	39.3
Associate's degree	5,034	4.3	48.9
Bachelor's degree	23,545	20.8	50.7
Postbaccalaureate school	14,531	13.9	54.8
Labor force status			
Employed	115,620	82.1	40.8
Unemployed	9,820	3.7	21.4
Not in labor force	56,361	14.2	14.5
Occupation			
Managerial and professional specialty	32,597	31.0	52.2
Technical, sales and administrative support	65,187	41.2	34.7
Service workers	27,727	11.6	23.0
Precision, production, craft and repair	29,490	11.9	22.1
Operators, fabricators, laborers and farm and forest workers	12,944	4.4	18.9
Industry			
Agriculture, mining, forestry and fishing	6,632	2.4	19.6
Construction	7,537	3.2	23.0
Manufacturing	28,397	15.4	29.3
Transportation and public utilities	9,359	5.4	30.9
Wholesale and retail trade	28,202	14.3	27.4
Finance, insurance and real estate	9,792	8.2	45.1
Services	54,924	37.2	36.5
Government	19,907	14.0	38.0

[1] Adults are defined as noninstitutionalized civilians, 17 years old or older, who were not enrolled full time in elementary or secondary school at the time of the survey.

NOTE: Details may not add to totals due to rounding.

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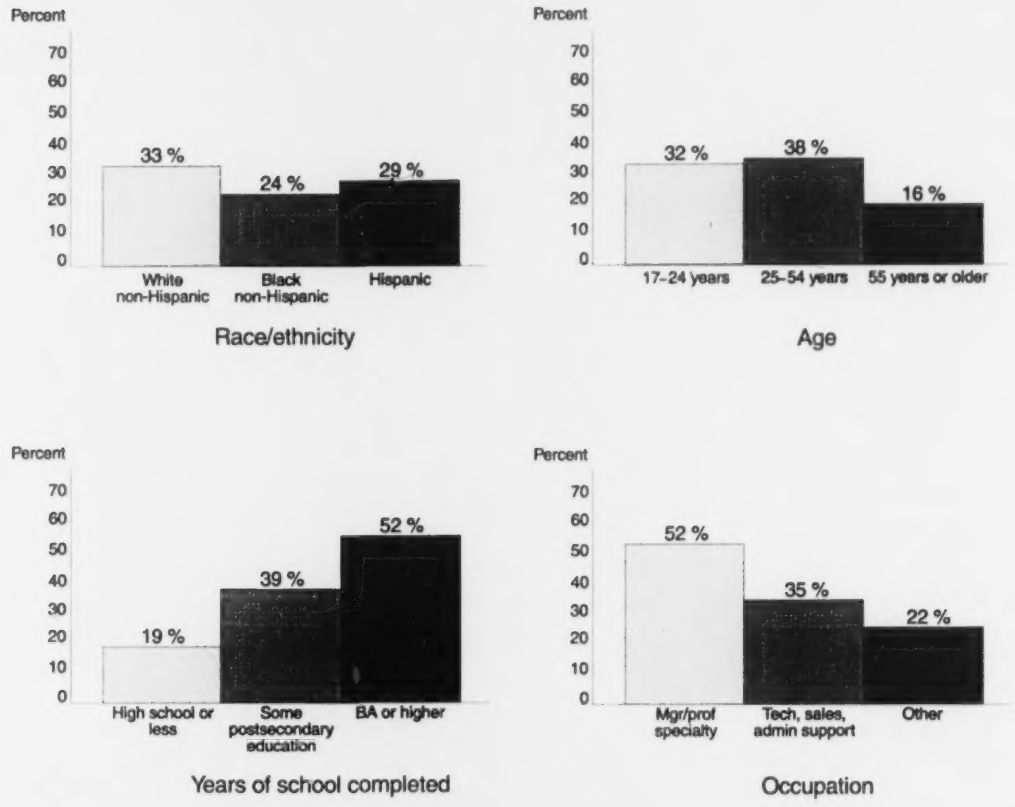
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education Component, 1991.

Figure 2.—Participation rate in adult education, by race/ethnicity, age, years of school completed, and occupation, 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Chapter III: Adult Education Courses and Participation

Average Number of Courses

Adult education participants took, on average, almost three adult education courses during the 12 months preceding the survey (table 3.1). Looking at the distribution of participants by number of courses taken (i.e., "one," "two," "three," "four," or "five or more"), the data show that most participants (44.1 percent) took one adult education course during the 12 months preceding the survey, 22 percent of the participants took two courses, and 15 percent took five or more courses. The number of courses taken, however, varied somewhat by certain demographic and labor force characteristics.

For example, while 44 percent of all participants took only one adult education course during the 12 months prior to the survey, 75 percent of participants with less than a high school diploma and 57 percent of participants with 12 years of formal education took only one adult education course. Additionally, participants who had completed a high school degree or less were less likely than adult participants as a whole to take five or more courses in the 12 months preceding the survey.

Participants with a bachelor's degree or higher, however, were more likely than the adult education population as a whole, to take five or more adult education courses during this time. Eighteen percent of participants with a bachelor's degree and 21 percent of participants with a graduate or professional school background took five or more adult education courses in the 12 months prior to the survey, while 15 percent of all participants took five or more courses during this time.

Participants not in the labor force were more likely than employed participants to take one adult education course and were less likely to take five or more adult education courses. As shown, among participants who were not in the labor force, 61 percent took one adult education course, and only 9 percent took five or more courses; however, 16 percent of employed participants took five or more courses, while 41 percent took one adult education course during the 12 months preceding the survey.

Average Length of Course Takings[5]

Table 3.2 shows the average number of weeks and the average number of hours per week of participation in adult education course taking. As indicated, participation in adult education course takings lasted, on average, 5 weeks, and class time was, on average, 11 hours per week. Most course takings (52.9 percent) lasted 1 week or less, extending an average of 14 hours per week. Generally, the longest periods of participation (7 or more weeks) required the fewest hours per week (i.e., 5 hours per week, on average), as might be anticipated when one considers typical schedules for courses taken at a college or university.

[5] It is important to distinguish the properties of courses from the properties of course takings or participation in adult education activities. For a detailed explanation, see "The Treatment of Courses and Course Characteristics," p. 54, in the appendix.

Table 3.1—Total and average number of course takings and percentage distribution of adult education participants, by number of course takings over a 12-month period and selected demographic and labor force characteristics of participants: 1991

Selected characteristics	Total number of course takings (thousands)	Average number of courses taken by adults	Number of course takings				
			One	*Two*	*Three*	*Four*	*Five or more*
Total	155,138	2.8	44.1	21.8	12.8	6.6	14.7
Sex							
Male	69,603	2.7	42.9	22.4	15.0	6.4	13.3
Female	85,535	2.8	45.0	21.4	11.0	6.7	16.0
Male							
With children under 16	31,020	2.8	40.0	20.8	16.8	7.6	14.9
None	38,583	2.7	45.1	23.6	13.7	5.5	12.1
Female							
With children under 16	36,641	2.7	47.9	20.9	11.0	5.6	14.6
None	48,894	2.9	42.6	21.8	10.9	7.6	17.1
Race/ethnicity							
White, non-Hispanic	127,041	2.8	43.1	22.2	13.4	6.6	14.7
Black, non-Hispanic	15,463	3.5	42.3	21.8	11.5	6.0	18.5
Hispanic	8,611	2.2	57.9	19.7	7.8	5.4	9.3
Other	4,022	3.1	42.2	15.6	12.6	10.3	19.4
Age							
17-24	20,117	2.9	47.2	19.4	10.6	6.7	16.1
25-34	48,680	2.8	43.8	22.4	12.9	5.7	15.2
35-54	70,150	2.9	40.0	21.9	14.9	7.4	15.9
55 or older	16,192	2.2	55.4	22.8	7.7	5.5	8.6
Highest grade or year of school completed							
Up to 11th grade	5,008	1.6	74.8	12.8	4.5	3.5	4.4
High school diploma or equivalent	32,503	2.2	56.6	20.8	9.2	5.0	8.3
Vocational/technical school	5,195	2.4	45.6	28.2	10.8	5.3	10.1
Some college	43,208	3.1	39.7	22.5	12.2	7.5	18.1
Associate's degree	7,710	3.2	33.3	24.7	16.4	7.7	17.8
Bachelor's degree	35,776	3.2	34.5	24.3	17.0	6.3	17.8
Postbaccalaureate school	25,737	3.3	32.7	20.0	17.2	9.4	20.8
Labor force status							
Employed	134,928	2.9	40.5	22.5	14.1	7.2	15.8
Unemployed	4,677	2.4	59.7	16.9	6.9	3.1	13.4
Not in labor force	15,533	2.1	60.8	19.4	7.1	3.8	9.0
Occupation							
Managerial and professional specialty	57,319	3.4	32.1	21.6	17.6	7.7	20.9
Technical, sales and administrative support	57,352	2.5	44.7	24.5	11.2	7.1	12.5
Service workers	16,820	2.6	50.5	18.9	11.6	5.3	13.7
Precision, production, craft and repair	14,059	2.2	54.8	21.5	10.8	4.5	8.4
Operators, fabricators, laborers and farm and forest workers	4,543	1.9	73.5	11.5	4.5	2.6	8.0
Industry							
Agriculture, mining, forestry and fishing	3,373	2.6	50.8	14.6	12.6	4.1	17.7
Construction	3,669	2.1	56.5	23.9	7.6	5.1	6.9
Manufacturing	20,183	2.4	46.5	22.9	13.3	5.9	11.4
Transportation and public utilities	6,937	2.4	46.6	19.5	14.0	8.0	12.0
Wholesale and retail trade	18,412	2.4	54.7	17.9	9.5	4.7	13.2
Finance, insurance and real estate	11,036	2.5	41.8	26.5	10.9	8.7	12.1
Services	59,476	3.0	40.0	23.7	12.4	7.3	16.6
Government	23,894	3.2	39.0	18.7	17.6	6.8	18.0

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Table 3.2–Average number of weeks, average number of hours, and percentage distribution of number of weeks of adult education course takings over a 12-month period, by selected demographic and labor force characteristics of participants: 1991

Selected characteristics	Average number of weeks	Average number of hours per week	Percentage distribution of number of weeks of adult education course takings						
			Total	1 or less weeks (in percent)	Average hrs per week (in hours)	2-6 weeks (in percent)	Average hrs per week (in hours)	7 or more weeks (in percent)	Average hrs per week (in hours)
Total	4.9	11.2	100.0	52.9	14.0	22.4	12.1	24.7	4.7
Sex									
Male	4.4	14.7	100.0	57.7	17.3	20.4	17.8	21.9	5.4
Female	5.3	8.3	100.0	49.0	10.9	24.0	7.9	27.0	4.2
Male									
With children under 16	3.8	14.7	100.0	64.4	16.2	18.5	17.4	17.2	6.6
None	4.9	14.7	100.0	52.3	18.4	21.9	18.1	25.8	4.7
Female									
With children under 16	5.5	8.0	100.0	52.7	9.8	21.4	8.1	25.9	4.3
None	5.2	8.5	100.0	46.2	11.8	26.0	7.9	27.8	4.0
Race/ethnicity									
White, non-Hispanic	4.9	10.8	100.0	54.0	13.4	21.6	12.0	24.4	4.4
Black, non-Hispanic	4.7	14.9	100.0	50.6	20.8	27.1	11.8	22.3	5.5
Hispanic	5.8	11.1	100.0	40.1	12.8	28.0	14.2	31.9	6.8
Other	4.8	8.4	100.0	52.4	10.8	18.2	9.1	29.4	4.0
Age									
17-24	6.6	8.8	100.0	34.5	11.9	23.8	12.0	41.7	4.9
25-34	4.9	12.0	100.0	54.0	15.8	19.8	11.0	26.2	5.2
35-54	4.5	11.3	100.0	57.9	13.7	21.9	11.7	20.2	4.3
55 or older	4.3	10.9	100.0	50.3	11.4	30.6	15.3	19.0	3.3
Highest grade or year of school completed									
Up to 11th grade	4.3	9.4	100.0	41.8	10.5	38.6	10.3	19.6	6.1
High school diploma or equivalent	5.4	12.7	100.0	46.2	15.8	25.8	16.3	28.0	4.8
Vocational/technical school	5.0	9.2	100.0	57.5	9.8	25.3	12.8	17.2	3.1
Some college	5.9	9.5	100.0	44.3	12.7	24.5	9.8	31.2	4.8
Associate's degree	4.2	11.0	100.0	54.7	13.1	24.2	10.8	21.1	6.1
Bachelor's degree	4.2	12.6	100.0	61.3	15.8	17.0	11.3	21.7	4.6
Postbaccalaureate school	3.9	10.9	100.0	64.3	12.9	18.1	11.4	17.5	3.5
Labor force status									
Employed	4.7	11.8	100.0	55.7	14.3	21.5	13.0	22.8	4.8
Unemployed	8.3	6.6	100.0	21.6	8.4	19.2	11.4	59.2	4.3
Not in labor force	6.1	6.9	100.0	37.1	10.4	31.2	6.6	31.7	3.7

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Table 3.2--Average number of weeks, average number of hours, and percentage distribution of number of weeks of adult education course takings over a 12-month period, by selected demographic and labor force characteristics of participants: 1991--continued

Selected characteristics	Average number of weeks	Average number of hours per week	Percentage distribution of number of weeks of adult education course takings						
			Total	1 or less weeks (in percent)	Average hrs per week (in hours)	2-6 weeks (in percent)	Average hrs per week (in hours)	7 or more weeks (in percent)	Average hrs per week (in hours)
Total	4.9	11.2	100.0	52.9	14.0	22.4	12.1	24.7	4.7
Occupation									
Managerial and professional specialty	4.3	10.9	100.0	60.2	13.1	20.6	10.9	19.3	4.3
Technical, sales and administrative support	5.2	10.9	100.0	48.0	13.9	24.0	12.5	28.0	4.6
Service workers	5.9	9.2	100.0	44.3	11.9	23.9	10.6	31.8	4.4
Precision, production, craft and repair	5.1	12.6	100.0	47.9	15.0	26.5	15.5	25.6	6.4
Operators, fabricators, laborers and farm and forest workers	5.4	8.6	100.0	52.6	9.8	16.1	13.6	31.3	4.4
Industry									
Agriculture, mining, forestry and fishing	4.2	9.9	100.0	64.6	12.2	14.1	6.6	21.3	5.4
Construction	5.3	10.7	100.0	45.8	14.2	24.2	12.1	30.0	5.1
Manufacturing	4.8	12.8	100.0	49.1	16.3	26.3	14.2	24.6	5.0
Transportation and public utilities	4.2	16.3	100.0	56.5	19.5	22.1	19.9	21.4	4.7
Wholesale and retail trade	6.3	8.7	100.0	39.3	12.7	25.6	7.9	35.2	5.0
Finance, insurance and real estate	4.8	10.1	100.0	51.3	12.2	22.1	12.6	26.7	4.2
Services	4.9	9.4	100.0	55.9	10.7	20.5	11.4	23.6	4.6
Government	4.5	13.0	100.0	54.9	16.2	24.8	13.6	20.3	4.3

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991

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The youngest participants were more likely than participants as a whole to participate in course takings lasting 7 or more weeks. Over 40 percent of the course takings by persons 24 years old or younger lasted 7 or more weeks. In contrast, only about 25 percent of the course takings by participants as a whole lasted 7 or more weeks.

Participants with a bachelor's degree or higher were more likely than all participants, to experience course takings lasting for 1 week or less. On average, over 60 percent of the course takings by persons with a bachelor's degree or higher lasted 1 week or less; about 53 percent of the course takings by participants as a whole lasted 1 week or less.

Unemployed participants were more likely than those who were employed to participate in longer course takings. While 59 percent of the course takings experienced by the unemployed lasted 7 or more weeks, only 23 percent of the course takings experienced by employed individuals lasted 7 or more weeks.

Length of course taking also varied somewhat by type of occupation. Course takings by participants in management or professional specialties generally were among the shortest; about 60 percent lasted 1week or less, and only about 19 percent lasted 7 or more weeks.

Participation in Noncredit Courses[6]

Unlike the other tables in chapter III, table 3.3 focuses on participants, rather than adult education course takings. The estimates in this table were developed from a question on the Adult Education survey that asked all respondents about courses taken other then those taken for degree credit at a college or university. It shows the participation rate (the percentage of all adults participating in these adult education activities) by type of noncredit course, selected providers of noncredit adult education courses, and selected demographic and labor force characteristics of participants.

Thirty-two percent of all adults 17 years old or older participated in adult education during the 12 months prior to the Adult Education survey when degree credit courses and all other part-time educational activities are considered (table 2.2). However, when courses taken for postsecondary degree credit are excluded, 23 percent of all adults 17 years old or older participated in some type of noncredit educational or training activity given by an employer, labor organization, or community group; and 12 percent participated in some type of noncredit continuing education course (table 3.3).

Only 1 percent of the entire adult population 17 years old or older participated in basic skills training on a noncredit/part-time basis during the 12 months prior to the survey. However, about 2 percent of black adults, about 3 percent of Hispanic adults, and about 3 percent of persons 24 years old or younger took some type of noncredit basic skills training during the 12 months preceding the survey.

Of all adults 17 years old or older, persons with an associate's degree or higher were among the most likely to participate in noncredit educational or training activities given by an employer or a community group, and persons with a high school degree or less were among the least likely to participate in this type of noncredit educational activity. That is, about 38 percent of persons with an associate's degree or higher participated in noncredit educational or training activities given by an employer or community group during this time, but only 16 percent of adults with a high school degree and 7 percent of persons with less than a high school degree participated in a noncredit employer or community-provided educational activity.

[6] The discussion of noncredit course takings refers to all part-time adult education activities except course takings taken for credit toward a degree.

Persons with a graduate or professional school background and persons in management or professional specialties were more likely than adults as a whole to take continuing education courses. That is, while 12 percent of adults 17 years old or older participated in noncredit continuing education courses, 30 percent of adults with a graduate or professional school background, and 26 percent of adults in management or professional specialties, took continuing education courses during the 12 months prior to the survey.

Table 3.3.–Participation rate in noncredit adult education course taking over a 12-month period, by type of course, selected providers, and selected demographic and labor force characteristics: 1991

Selected characteristics	Type of noncredit course [1]						Selected providers of noncredit course		
	Continuing education	*Basic skills*	*English as a 2nd language*	*Other organized ed acty*	*GED/HS*	*Computer courses*	*By mail/ TV/radio/ newspaper*	*Private inst/ tutoring*	*Ed/training by employer/ community*
Total	12.0	1.3	0.6	0.6	0.1	0.1	1.6	2.9	22.5
Sex									
Male	11.2	1.3	0.6	0.6	0.1	0.1	1.6	3.1	23.2
Female	12.6	1.3	0.5	0.6	0.1	0.1	1.6	2.8	21.9
Male									
With children under 16	14.3	1.4	0.6	0.4	0.1	0.1	1.7	4.3	28.3
None	9.4	1.2	0.6	0.7	0.0	0.1	1.5	2.4	20.1
Female									
With children under 16	13.9	1.6	0.7	0.3	0.2	0.2	1.8	3.3	26.5
None	11.8	1.2	0.4	0.7	0.1	0.1	1.5	2.5	19.0
Race/ethnicity									
White, non-Hispanic	13.0	1.1	0.1	0.6	0.1	0.1	1.7	3.0	23.8
Black, non-Hispanic	7.5	2.0	0.3	0.4	0.2	0.1	1.4	2.4	16.2
Hispanic	8.6	2.7	5.4	0.4	0.1	0.0	1.1	2.2	19.4
Other	11.3	1.4	1.5	0.4	0.0	0.2	1.1	4.2	17.9
Age									
17-24	9.3	2.7	1.0	0.5	0.4	0.1	1.7	4.0	18.0
25-34	13.5	1.6	1.0	0.6	0.1	0.1	2.0	3.5	27.2
35-54	16.3	1.3	0.5	0.7	0.1	0.2	2.0	3.8	29.1
55 or older	6.1	0.3	0.0	0.5	0.0	0.1	0.7	0.8	11.2
Highest grade or year of school completed									
Up to 11th grade	3.6	1.7	0.9	0.1	0.3	0.0	0.6	1.4	7.4
High school diploma or equivalent	7.1	1.1	0.3	0.5	0.1	0.1	0.9	1.7	15.9
Vocational/technical school	7.6	1.1	0.8	1.2	0.0	0.0	2.4	3.8	25.3
Some college	13.7	1.8	0.8	0.6	0.0	0.2	2.1	4.0	27.0
Associate's degree	21.4	1.0	0.9	0.4	0.1	0.3	3.0	5.0	37.5
Bachelor's degree	21.1	1.0	0.4	0.9	0.0	0.1	2.3	5.1	38.4
Postbaccalaureate school	30.5	1.0	0.4	1.4	0.0	0.4	3.2	4.0	37.6
Labor force status									
Employed	15.8	1.6	0.6	0.8	0.1	0.1	2.1	3.6	30.2
Unemployed	9.5	1.3	1.5	0.2	0.1	0.1	1.7	4.8	9.1
Not in labor force	4.7	0.7	0.3	0.2	0.1	0.0	0.7	1.2	8.8
Occupation									
Managerial and professional specialty	26.5	1.1	0.4	0.9	0.0	0.2	2.7	5.0	38.2
Technical, sales and administrative support	12.3	1.2	0.2	0.7	0.0	0.1	1.7	3.0	24.9
Service workers	7.1	1.6	0.6	0.2	0.1	0.0	1.3	2.8	15.1
Precision, production, craft and repair	6.0	1.8	0.9	0.7	0.1	0.1	1.1	1.7	15.6
Operators, fabricators, laborers and farm and forest workers	4.2	0.7	0.3	0.1	0.1	0.0	0.7	2.5	15.1
Industry									
Agriculture, mining, forestry and fishing	9.5	0.1	0.3	0.3	0.0	0.0	0.7	3.4	13.8
Construction	8.0	1.5	0.4	1.3	0.0	0.1	1.6	1.5	13.9
Manufacturing	9.1	1.8	0.7	0.3	0.1	0.1	1.1	2.4	22.0
Transportation and public utilities	6.2	1.0	0.1	0.5	0.3	0.0	1.2	1.8	26.4
Wholesale and retail trade	6.9	1.4	0.3	0.9	0.1	0.1	1.5	2.9	17.9
Finance, insurance and real estate	17.7	1.5	0.0	0.6	0.0	0.1	3.1	4.6	32.4
Services	17.4	1.2	0.6	0.6	0.1	0.1	2.0	3.7	25.2
Government	14.8	1.1	0.3	0.5	0.1	0.2	1.8	2.9	29.9

[1] The percentage may total to more than 100 because respondents could report as many types of courses/providers that applied.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Chapter IV:
Reasons for Participating, Providers, Sources of Financial Support, and Cost of Adult Education

Basic to any exploration of adult education are the questions: Why do individuals participate in adult education; who are the providers of adult education; how is adult education financed; and what does it cost individuals who take adult education courses? Because adult education is comprised of such a wide variety of courses and other learning experiences, it is conceivable that an individual who takes several courses could take each course for a different reason, each course could be taught by a different provider, have a different source of financing, and have differing costs. For this reason, this chapter explores these questions not only from the perspective of the participant, but also from the perspective of the course taking itself. In fact, the data indicate the interaction between the participant and the course, and thus show the course-taking behavior of participants. That is, the data are presented in terms of the proportion of course taking by selected characteristics of participants and proportion of courses taken by reasons for taking the course, the providers of the course, the sources of financing, and the costs to participants.

The NHES:91 Adult Education survey was designed to allow respondents to list the four most recent adult education courses they had taken. As the data in chapter III indicated most individuals took four or fewer courses so most individuals had the opportunity to describe all their adult education courses. However, about 10 (unweighted number) percent of the sample, representing 15 percent of adult education participants in the nation, took more than four adult education courses. Additionally, only about 75 percent of the total number of course takings by participants over a 12-month period is accounted for by the four most recent courses. Because it was possible that the extra course taking was not evenly distributed among all participants, and that one specific reason for taking courses or a particular type of provider of the courses would be more prevalent among courses taken by individuals who took a large number of courses, characteristics of the extra courses were imputed. This strategy better ensures that the distributions of course taking presented in this chapter reflect the entire population of course taking. A description of the imputation methodology is available in the technical notes, appendix A.

An additional point to keep in mind while reading this chapter is that percentage distributions in tables 4.1 through 4.6 are displayed from two perspectives. The distributions in tables 4.1, 4.3, and 4.5 are based on the characteristics of the participant. That is, for a given participant characteristic, course takings are distributed by reasons for taking the course (table 4.1), by providers of the course taking (table 4.3), and by sources of financing for the course taking (table 4.5). In tables 4.2, 4.4, and 4.6 the distributions are based on characteristics of adult education course taking. That is, for a given course taking characteristic (i.e., reasons for participating in course taking, primary provider of the course taking, and sources of financing for the course taking), participants are distributed by their demographic and labor force characteristics.

Motivation

Of all the adult education course taking, close to 60 percent (57.9 percent) was to improve or advance in a current job or career (table 4.1). This pattern was more evident for males than females. About 66 percent of the course taking by males was to improve or advance in a current job, while about 51 percent of the course taking by women was to improve or advance in a current job. On the other hand,

of the course taking by women, 23 percent was for personal or social reasons and 18 percent was to meet degree/diploma requirements. Of the course taking by men, about 15 percent was for personal or social reasons and about 13 percent was to satisfy degree/diploma requirements.

Not surprisingly, a high percentage (64.0 percent) of the course taking by employed individuals was to improve or advance in their job (table 4.1). Also, as one might expect, a high percentage (58.9 percent) of the course taking by individuals not in the labor force was for personal or social reasons. In contrast, of the course taking by unemployed individuals, 35 percent was to complete a requirement or to receive a diploma or a degree, 27 percent was to train for a new job or career, and 20 percent was for job improvement or advancement.

Table 4.2 examines the question of motivation slightly differently. For example, the data indicate that while a relatively small proportion of adult education course taking was by blacks and Hispanics (10.0 percent and 5.6 percent, respectively), 24 percent of the course taking to improve basic skills was taken by blacks and 22 percent was taken by Hispanics. The data also show that while 21 percent of all adult education course taking was by persons who completed only 12 years of school, 33 percent of the course taking to train for a job and 41 percent of the course taking to improve basic skills was by individuals who had completed only 12 years of school. Not surprisingly, while 28 percent of all course taking was by persons with some college, 44 percent of the course taking to receive a diploma or degree was taken by individuals with some college.

Looking at employment status, the data indicate that 87 percent of all adult education course taking was by employed individuals (table 4.2). However, 96 percent of the course taking to improve and advance in a current job was by employed persons, while proportionally fewer of the course takings to train for a job or career (73.3 percent) was by employed individuals. Interestingly, only about 3 percent of all adult education course taking was by unemployed persons, and 13 percent of the course taking to train for a new job was by unemployed individuals.

Reasons for adult education course taking also varied by occupation (table 4.2). The data show that 11 percent of adult education course taking was by persons in service occupations; however, individuals in service occupations were among the most likely to engage in course taking to improve basic skills. Of the course taking to improve basic skills, 21 percent was by persons in service occupations. Likewise, while about 9 percent of all adult education course taking was by persons in precision products or craft occupations, individuals in these occupations were among the most likely to engage in course taking to train for a new job or career (16.5 percent).

Providers[7]

The majority of adult education course taking was in courses provided by 4- or 2-year colleges or universities, or businesses (30.6 percent and 27.1 percent, respectively) (table 4.3). Federal, state, and local governments provided another 11 percent, while other groups or organizations provided fewer than 10 percent each.[8]

Interestingly, of the course taking by men, 35 percent was in courses provided by business and industry, while 21 percent of the course taking by women was provided by the business community. However, course taking by women was more likely than that by men to be in courses provided by 4- or 2-year colleges or universities. Of the course taking by women, 34 percent was in courses provided by 4- or 2-year colleges or universities, while 27 percent of the course taking by men was in courses

[7] "Providers" were defined as schools, organizations, businesses, or individuals that provided the instruction.

[8] The category "community groups" includes church-related providers, and the category "government" includes the military.

Table 4.1.--Percentage distribution of adult education course taking over a 12-month period, by main reason for course taking and selected demographic and labor force characteristics of participants: 1991

Selected characteristics	Main reason for course taking (in percent)						
	All reasons	*Personal/ social*	*Advance on the job*	*Train for job*	*Improve basic skills*	*Required for degree/diploma*	*Other*
Total	100.0	19.4	57.9	6.1	0.7	15.7	0.2
Sex							
Male	100.0	15.2	66.0	5.4	0.6	12.6	0.2
Female	100.0	22.9	51.3	6.7	0.8	18.2	0.2
Male							
With children under 16	100.0	11.9	72.3	5.5	0.5	9.6	0.2
None	100.0	17.9	60.9	5.4	0.7	15.0	0.1
Female							
With children under 16	100.0	21.5	51.8	7.5	0.5	18.6	0.2
None	100.0	23.9	50.9	6.1	1.0	17.9	0.2
Race/ethnicity							
White, non-Hispanic	100.0	20.0	58.4	5.5	0.4	15.5	0.2
Black, non-Hispanic	100.0	13.5	62.7	6.8	1.7	15.1	0.2
Hispanic	100.0	21.5	45.6	13.5	2.8	16.4	0.3
Other	100.0	19.5	49.7	6.6	0.9	23.2	0.1
Age							
17-24	100.0	17.6	36.9	11.3	2.0	31.9	0.3
25-34	100.0	15.8	58.7	7.3	0.8	17.4	0.1
35-54	100.0	18.0	64.9	4.6	0.4	11.9	0.2
55 or older	100.0	39.0	50.9	2.8	0.4	6.5	0.4
Highest grade or year of school completed							
Up to 11th grade	100.0	28.4	43.8	8.0	3.6	16.0	0.2
High school diploma or equivalent	100.0	22.2	54.5	9.5	1.4	12.1	0.2
Vocational/technical school	100.0	20.3	63.9	5.9	0.6	9.0	0.2
Some college	100.0	20.9	46.3	7.3	0.8	24.5	0.2
Associate's degree	100.0	11.5	68.7	2.8	0.4	16.6	0.0
Bachelor's degree	100.0	16.3	67.3	4.2	0.1	11.9	0.2
Postbaccalaureate school	100.0	18.4	66.7	3.2	0.2	11.4	0.1
Labor force status							
Employed	100.0	15.0	64.0	5.2	0.5	15.2	0.1
Unemployed	100.0	16.1	19.9	27.0	1.5	35.1	0.4
Not in labor force	100.0	58.9	15.9	8.4	2.2	14.0	0.6
Occupation							
Managerial and professional specialty	100.0	16.7	65.3	3.7	0.2	14.1	0.1
Technical, sales and administrative support	100.0	21.7	54.3	6.6	0.8	16.4	0.2
Service workers	100.0	20.1	46.1	9.3	1.3	22.8	0.3
Precision, production, craft and repair	100.0	21.0	56.1	10.9	1.2	10.4	0.3
Operators, fabricators, laborers and farm and forest workers	100.0	20.7	51.5	5.4	1.9	20.3	0.1
Industry							
Agriculture, mining, forestry and fishing	100.0	35.1	47.6	1.6	0.7	15.0	0.0
Construction	100.0	22.0	54.3	12.4	0.9	10.3	0.1
Manufacturing	100.0	20.7	60.4	6.2	0.8	11.8	0.2
Transportation and public utilities	100.0	14.9	64.0	8.1	0.7	12.0	0.3
Wholesale and retail trade	100.0	25.9	39.6	11.6	1.7	20.9	0.2
Finance, insurance and real estate	100.0	12.8	67.9	5.0	0.6	13.6	0.1
Services	100.0	19.3	56.3	5.3	0.4	18.5	0.1
Government	100.0	16.7	67.1	3.5	0.5	12.0	0.2

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Table 4.2.–Percentage distribution of adult education course taking over a 12-month period, by selected demographic and labor force characteristics of participants and main reason for course taking: 1991

Selected characteristics	Main reason for course taking (in percent)						
	Total	Personal/ social	Advance on the job	Train for job	Improve basic skills	Required for degree/diploma	Other
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex							
Male	44.9	35.0	51.1	39.7	40.8	35.9	40.4
Female	55.1	65.0	48.9	60.3	59.2	64.1	59.6
Male							
With children under 16	44.6	35.1	49.1	45.5	37.6	34.4	n<30 [1]
None	55.4	64.9	50.9	54.5	62.4	65.6	n<30 [1]
Female							
With children under 16	42.8	40.2	43.3	48.0	28.5	43.8	n<30 [1]
None	57.2	59.8	56.7	52.0	71.5	56.2	n<30 [1]
Race/ethnicity							
White, non-Hispanic	81.9	84.3	82.6	74.0	50.5	80.7	78.4
Black, non-Hispanic	10.0	6.9	10.8	11.0	24.5	9.6	9.2
Hispanic	5.6	6.2	4.4	12.3	21.7	5.8	11.1
Other	2.6	2.6	2.2	2.8	3.3	3.8	1.4
Age							
17-24	13.0	11.7	8.2	23.9	36.4	26.3	20.4
25-34	31.4	25.5	31.8	37.4	33.9	34.9	12.7
35-54	45.2	42.1	50.8	34.0	23.4	34.5	44.1
55 or older	10.4	20.8	9.1	4.7	6.4	4.3	22.8
Highest grade or year of school completed							
Up to 11th grade	3.2	4.6	2.4	4.1	15.9	3.3	4.0
High school diploma or equivalent	21.0	23.9	19.7	32.6	41.3	16.2	24.6
Vocational/technical school	3.3	3.5	3.7	3.3	3.0	2.0	4.2
Some college	27.9	30.0	22.3	33.4	31.2	43.7	27.0
Associate's degree	5.0	3.0	6.0	2.3	2.6	5.3	0.0
Bachelor's degree	23.1	19.2	26.7	15.6	2.0	17.4	29.7
Postbaccalaureate school	16.6	15.7	19.2	8.6	4.2	12.2	10.6
Labor force status							
Employed	87.0	67.2	96.2	73.3	62.5	84.5	60.6
Unemployed	3.0	2.4	1.0	13.0	6.3	6.6	6.4
Not in labor force	10.0	30.3	2.7	13.7	31.2	8.9	33.0
Occupation							
Managerial and professional specialty	38.2	32.7	43.3	22.8	8.7	34.1	20.2
Technical, sales and administrative support	38.2	42.7	36.0	41.2	44.9	39.7	40.1
Service workers	11.2	11.5	8.9	16.9	21.2	16.1	20.4
Precision, production, craft and repair	9.4	10.0	9.1	16.5	17.0	6.2	16.6
Operators, fabricators, laborers and farm and forest workers	3.0	3.2	2.7	2.7	8.2	3.9	2.7
Industry							
Agriculture, mining, forestry and fishing	2.3	4.1	1.9	0.6	2.2	2.2	0.0
Construction	2.5	2.8	2.4	5.0	3.1	1.6	1.8
Manufacturing	13.7	14.4	14.4	13.7	15.9	10.2	13.6
Transportation and public utilities	4.7	3.6	5.3	6.2	4.6	3.6	8.2
Wholesale and retail trade	12.5	16.5	8.6	23.6	30.3	16.5	18.5
Finance, insurance and real estate	7.5	4.9	8.9	6.1	6.5	6.4	6.2
Services	40.5	39.8	39.6	35.2	25.3	47.2	29.8
Government	16.3	13.9	19.0	9.4	12.0	12.3	21.9

[1] Too few sample observations for a reliable estimate.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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provided by 4- or 2-year colleges or universities.

Table 4.4 looks at providers from a different perspective, but the data echo some of the findings described above. For instance, about 55 percent of total course taking was by females; however, of that provided by businesses and labor unions/professional associations, only 45 percent was by females. Of the course taking provided by businesses, 58 percent was by males; and of that provided by labor unions/professional associations, 55 percent was by males. On the other hand, females accounted for 74 percent of course taking provided by elementary/secondary schools, 62 percent of course taking provided by community colleges, 60 percent provided by 4-year colleges or universities, 66 percent provided by vocational/trade groups, 56 percent provided by tutors or private instruction, and 69 percent provided by private community organizations.

Labor unions and professional associations provided courses for about 10 percent of course taking by whites, but for only about 5 percent of course taking by minorities (table 4.3). Specifically, courses provided by labor unions accounted for only 4 percent of course taking by black adults, 5 percent by Hispanic adults, and approximately 4 percent by "other" racial/ethnic groups (i.e. Asian or Pacific Islanders, Native American or Alaskan Natives, or some other race). Furthermore, while 4-year colleges and universities provided courses for about 17 percent of all course taking, only 12 percent of course taking by Hispanics was provided by 4-year higher education institutions. A high proportion of course taking by Hispanic adults, however, was provided by 2-year institutions. That is, 2-year institutions provided courses accounting for about 25 percent of course taking by Hispanic adults, as compared to about14 percent of total adult course taking (table 4.3).

The type of provider also varied by one's employment status (table 4.3). For example, the largest provider of adult education for employed persons was business and industry (29.5 percent); however, one of the largest providers for unemployed persons was 2-year community or junior colleges (45.3 percent); and one of the largest providers of course taking for individuals not in the labor force was private community organizations (27.5 percent) (figure 5).

The type of provider also varied by one's occupation (table 4.4). While labor unions and professional associations were among the larger providers of adult education to persons in management and professional fields, they were one of the smaller providers to persons working in other occupations. For example, of the courses provided by labor unions and professional groups, over one-half (54.4 percent) of the course taking in these was by persons in management and professional specialties. Somewhat fewer course takings were provided by labor unions and professional associations to persons in technical, sales, and administrative support occupations (28.6 percent), to persons in service occupations (9 percent), and to persons in precision products or crafts, and laborers, farm or forest workers (about 4 percent, respectively).

Table 4.3.–Percentage distribution of adult education course taking over a 12-month period, by primary provider and selected demographic and labor force characteristics of participants: 1991

Selected characteristics	Primary provider (in percent)											
	All	Elem/sec school	2-year jr/ tech college	4-year university	Vocational/ trade	Private instruction	Business/ industry	Labor/prof assoc	Library	Government	Community groups	Other
Total	100.0	3.8	13.6	17.0	7.2	2.6	27.1	9.2	0.1	11.4	7.5	0.7
Sex												
Male	100.0	2.1	11.5	15.2	5.4	2.5	34.9	11.3	0.1	11.2	5.2	0.6
Female	100.0	5.1	15.3	18.4	8.6	2.6	20.9	7.5	0.1	11.5	9.4	0.7
Male												
With children under 16	100.0	2.0	7.3	14.0	6.4	2.4	37.1	14.0	0.0	11.4	5.0	0.5
None	100.0	2.3	15.0	16.3	4.6	2.6	33.0	9.0	0.1	11.0	5.3	0.8
Female												
With children under 16	100.0	5.9	13.5	19.2	10.0	2.9	18.5	7.8	0.1	10.6	10.8	0.9
None	100.0	4.4	16.8	17.8	7.5	2.4	22.7	7.2	0.2	12.2	8.4	0.5
Race/ethnicity												
White, non-Hispanic	100.0	3.6	12.7	17.4	7.3	2.7	27.3	10.2	0.1	10.2	7.7	0.7
Black, non-Hispanic	100.0	2.8	11.8	15.4	6.1	1.8	29.7	4.3	0.0	22.1	5.2	0.6
Hispanic	100.0	7.2	24.9	12.3	6.1	1.5	23.4	4.6	0.0	10.8	8.4	0.8
Other	100.0	4.6	27.0	19.7	9.3	1.8	20.5	3.6	0.0	6.5	6.6	0.5
Age												
17-24	100.0	3.8	28.0	20.0	6.7	3.2	17.6	2.9	0.0	13.5	4.0	0.2
25-34	100.0	3.1	14.9	19.3	6.9	2.6	30.4	7.7	0.0	8.7	5.5	0.9
35-54	100.0	3.9	9.3	15.4	7.7	2.2	28.6	11.6	0.1	12.8	7.7	0.6
55 or older	100.0	4.9	11.1	13.0	6.0	3.1	22.6	10.7	0.4	10.5	17.2	0.5
Highest grade or year of school completed												
Up to 11th grade	100.0	13.0	13.3	4.7	4.3	2.6	25.2	3.8	0.4	13.9	18.2	0.5
High school diploma or equivalent	100.0	3.9	20.1	9.0	7.1	2.5	31.2	6.0	0.1	10.8	8.7	0.6
Vocational/technical school	100.0	1.5	12.2	6.3	18.3	2.9	35.8	6.9	0.0	6.4	8.2	1.4
Some college	100.0	2.4	21.1	20.1	6.8	2.5	25.5	6.1	0.1	7.8	6.7	0.8
Associate's degree	100.0	1.5	13.4	13.4	15.4	1.6	33.2	11.2	0.3	5.9	4.0	0.1
Bachelor's degree	100.0	3.9	5.6	20.1	5.9	3.1	28.0	10.4	0.1	16.0	6.3	0.6
Postbaccalaureate school	100.0	5.0	4.7	22.9	5.2	2.1	20.3	17.4	0.1	13.9	7.9	0.6
Labor force status												
Employed	100.0	3.4	12.2	17.4	7.4	2.4	29.5	9.9	0.0	12.0	5.3	0.5
Unemployed	100.0	10.4	45.3	10.7	4.4	1.8	8.8	5.5	0.5	7.8	4.5	0.3
Not in labor force	100.0	5.0	16.7	15.0	6.0	3.6	12.3	3.9	0.5	7.0	27.5	2.4

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Table 4.3.--Percentage distribution of adult education course taking over a 12-month period, by primary provider and selected demographic and labor force characteristics of participants: 1991--continued

Selected characteristics	Primary provider (in percent)											
	All	*Elem/sec school*	*2-year jr/ tech college*	*4-year university*	*Vocational/ trade*	*Private instruction*	*Business/ industry*	*Labor/prof association*	*Library*	*Government*	*Community groups*	*Other*
Total	100.0	3.8	13.6	17.0	7.2	2.6	27.1	9.2	0.1	11.4	7.5	0.7
Occupation												
Managerial and professional specialty	100.0	4.6	7.7	20.4	8.2	2.3	20.6	13.3	0.1	14.8	7.6	0.4
Technical, sales and administrative support	100.0	2.7	15.8	16.8	7.3	2.7	33.0	7.0	0.1	6.2	7.7	0.7
Service workers	100.0	4.5	24.0	17.7	5.1	3.2	11.9	7.2	0.0	19.8	5.5	1.0
Precision, production, craft and repair	100.0	3.2	18.3	5.9	6.1	3.2	41.5	4.7	0.2	8.4	7.4	1.1
Operators, fabricators, laborers and farm and forest workers	100.0	3.6	13.8	15.2	4.1	0.9	22.2	11.9	0.0	16.1	12.3	0.0
Industry												
Agriculture, mining, forestry and fishing	100.0	2.3	3.4	16.7	5.1	2.2	44.3	6.4	0.0	11.0	8.5	0.0
Construction	100.0	1.5	13.9	8.8	17.2	1.4	27.2	5.5	0.1	14.1	7.4	2.9
Manufacturing	100.0	3.3	14.3	13.0	4.6	1.4	48.4	3.6	0.1	3.3	7.5	0.5
Transportation and public utilities	100.0	3.2	12.0	9.8	3.9	1.9	48.3	12.4	0.0	3.3	5.2	0.1
Wholesale and retail trade	100.0	1.8	21.5	17.6	4.2	4.3	30.6	5.5	0.3	2.9	10.4	0.8
Finance, insurance and real estate	100.0	1.7	13.0	11.3	3.5	3.3	45.5	14.2	0.0	2.1	5.3	0.3
Services	100.0	4.6	13.6	21.1	11.4	2.5	17.2	12.9	0.1	7.0	8.8	0.9
Government	100.0	5.3	9.2	18.3	2.9	1.8	7.2	6.7	0.1	43.7	4.5	0.3

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Table 4.4.–Percentage distribution of adult education course taking over a 12-month period, by selected demographic and labor market characteristics of participants and primary provider: 1991

Selected characteristics	Primary provider (in percent)											
	Total	*Elem/sec school*	*2-year jr/ tech college*	*4-year university*	*Vocational/ trade*	*Private instruction*	*Business/ industry*	*Labor/prof association*	*Library*	*Government*	*Community groups*	*Other*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex												
Male	44.9	25.6	37.9	40.2	34.0	43.7	57.5	55.0	n<30 [1]	44.0	30.8	44.1
Female	55.1	74.4	62.1	59.8	66.0	56.3	42.5	45.0	n<30 [1]	56.0	69.2	55.9
Male												
With children under 16	44.6	40.9	28.3	41.0	53.0	42.9	47.7	55.8	n<30 [1]	45.6	42.9	31.9
None	55.4	59.1	71.7	59.0	47.0	57.1	52.3	44.2	n<30 [1]	54.4	57.1	68.1
Female												
With children under 16	42.8	50.0	37.6	44.7	49.9	48.1	37.9	44.9	n<30 [1]	39.4	49.2	55.2
None	57.2	50.0	62.4	55.3	50.1	51.9	62.1	55.1	n<30 [1]	60.6	50.8	44.8
Race/ethnicity												
White, non-Hispanic	81.9	78.9	76.2	83.9	83.5	88.0	82.4	91.5	n<30 [1]	73.9	84.6	81.9
Black, non-Hispanic	10.0	7.4	8.6	9.1	8.5	6.9	10.9	4.7	n<30 [1]	19.4	7.0	9.7
Hispanic	5.6	10.5	10.0	4.0	4.7	3.2	4.7	2.8	n<30 [1]	5.2	6.1	6.5
Other	2.6	3.2	5.2	3.0	3.4	1.8	2.0	1.0	n<30 [1]	1.5	2.3	1.9
Age												
17-24	13.0	13.2	26.6	15.3	12.2	16.4	8.4	4.2	n<30 [1]	15.4	6.9	4.7
25-34	31.4	26.1	34.1	35.6	30.2	31.6	35.1	26.4	n<30 [1]	24.0	22.9	43.2
35-54	45.2	47.3	30.9	41.2	49.1	39.7	47.9	57.5	n<30 [1]	51.2	46.7	44.9
55 or older	10.4	13.4	8.3	7.8	8.5	12.4	8.5	12.0	n<30 [1]	9.4	23.4	7.1
Highest grade or year of school completed												
Up to 11th grade	3.2	10.9	3.1	0.9	1.9	3.2	2.9	1.3	n<30 [1]	3.8	7.6	2.5
High school diploma or equivalent	21.0	21.6	30.6	11.1	20.7	20.3	23.9	13.6	n<30 [1]	19.7	24.0	19.8
Vocational/technical school	3.3	1.4	3.1	1.3	8.7	3.9	4.5	2.5	n<30 [1]	1.9	3.7	7.1
Some college	27.9	17.9	43.1	33.0	26.6	27.5	26.1	18.5	n<30 [1]	19.0	25.0	32.6
Associate's degree	5.0	2.1	5.0	4.0	10.9	3.1	6.2	6.2	n<30 [1]	2.6	2.7	0.9
Bachelor's degree	23.1	24.1	9.5	27.3	19.1	28.0	23.8	26.2	n<30 [1]	32.6	19.3	21.5
Postbaccalaureate school	16.6	22.1	5.7	22.5	12.2	14.0	12.5	31.7	n<30 [1]	20.4	17.6	15.7
Labor force status												
Employed	87.0	78.4	78.0	89.3	89.8	83.6	94.5	94.0	n<30 [1]	91.7	61.3	61.5
Unemployed	3.0	8.1	9.7	1.8	1.8	2.1	1.0	1.7	n<30 [1]	2.0	1.8	1.3
Not in labor force	10.0	13.4	12.3	8.9	8.4	14.4	4.6	4.3	n<30 [1]	6.2	36.9	37.2

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Table 4.4.–Percentage distribution of adult education course taking over a 12-month period, by selected demographic and labor force market characteristics of participants and primary provider: 1991–continued

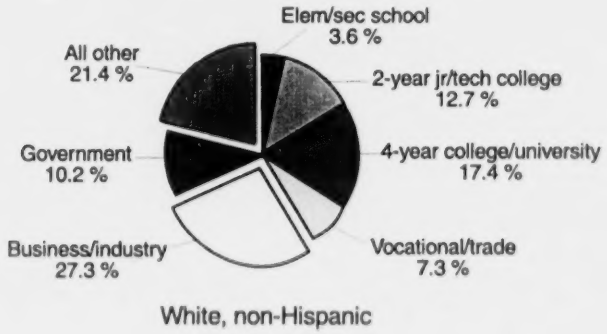
Selected characteristics	Primary provider (in percent)											
	Total	*Elem/sec school*	*2-year jr/ tech college*	*4-year university*	*Vocational/ trade*	*Private instruction*	*Business/ industry*	*Labor/prof association*	*Library*	*Government*	*Community groups*	*Other*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Occupation												
Managerial and professional specialty	38.2	47.9	21.6	45.5	43.8	33.5	30.0	54.4	n<30 [1]	49.4	38.7	23.5
Technical, sales and administrative support	38.2	27.8	43.9	37.4	38.7	40.2	47.9	28.6	n<30 [1]	20.7	39.2	43.3
Service workers	11.2	13.5	19.3	11.4	7.9	13.9	5.0	8.6	n<30 [1]	19.1	8.2	17.2
Precision, production, craft and repair	9.4	8.0	12.3	3.2	7.9	11.4	14.6	4.7	n<30 [1]	6.7	9.1	16.0
Operators, fabricators, laborers and farm and forest workers	3.0	2.8	2.9	2.6	1.7	1.1	2.5	3.7	n<30 [1]	4.1	4.8	0.0
Industry												
Agriculture, mining, forestry and fishing	2.3	1.4	0.6	2.1	1.6	2.0	3.8	1.5	n<30 [1]	2.1	2.5	0.0
Construction	2.5	0.9	2.4	1.2	5.6	1.3	2.4	1.4	n<30 [1]	2.8	2.2	9.8
Manufacturing	13.7	12.1	14.5	10.3	8.9	7.7	25.6	5.3	n<30 [1]	3.8	13.5	10.2
Transportation and public utilities	4.7	4.0	4.2	2.7	2.6	3.7	8.9	6.3	n<30 [1]	1.4	3.2	0.7
Wholesale and retail trade	12.5	5.8	19.8	12.7	7.3	22.2	14.8	7.3	n<30 [1]	3.1	17.1	13.8
Finance, insurance and real estate	7.5	3.4	7.1	4.8	3.6	10.0	13.1	11.2	n<30 [1]	1.3	5.2	3.5
Services	40.5	49.2	40.4	49.0	63.8	41.2	26.8	55.2	n<30 [1]	24.3	46.5	55.2
Government	16.3	23.1	11.1	17.2	6.7	11.9	4.6	11.7	n<30 [1]	61.2	9.6	6.9

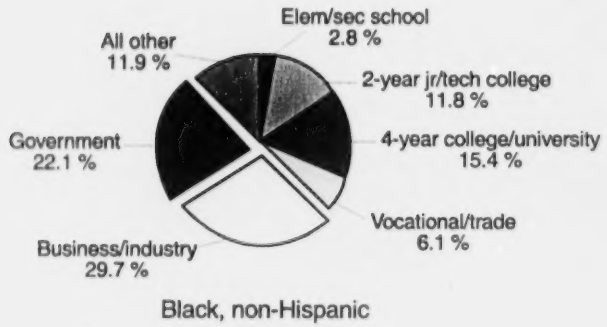
[1] Too few sample observations for a reliable estimate.

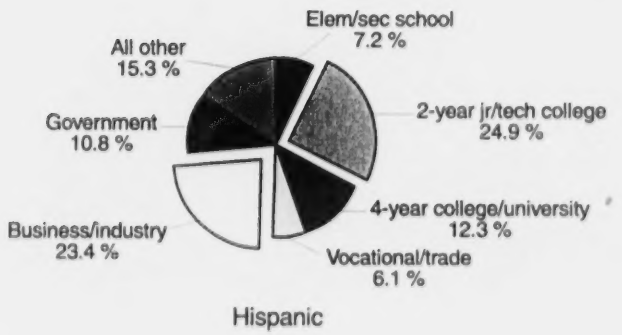
NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

Figure 3.—Primary providers of adult course taking, by race/ethnicity of participants: 1991

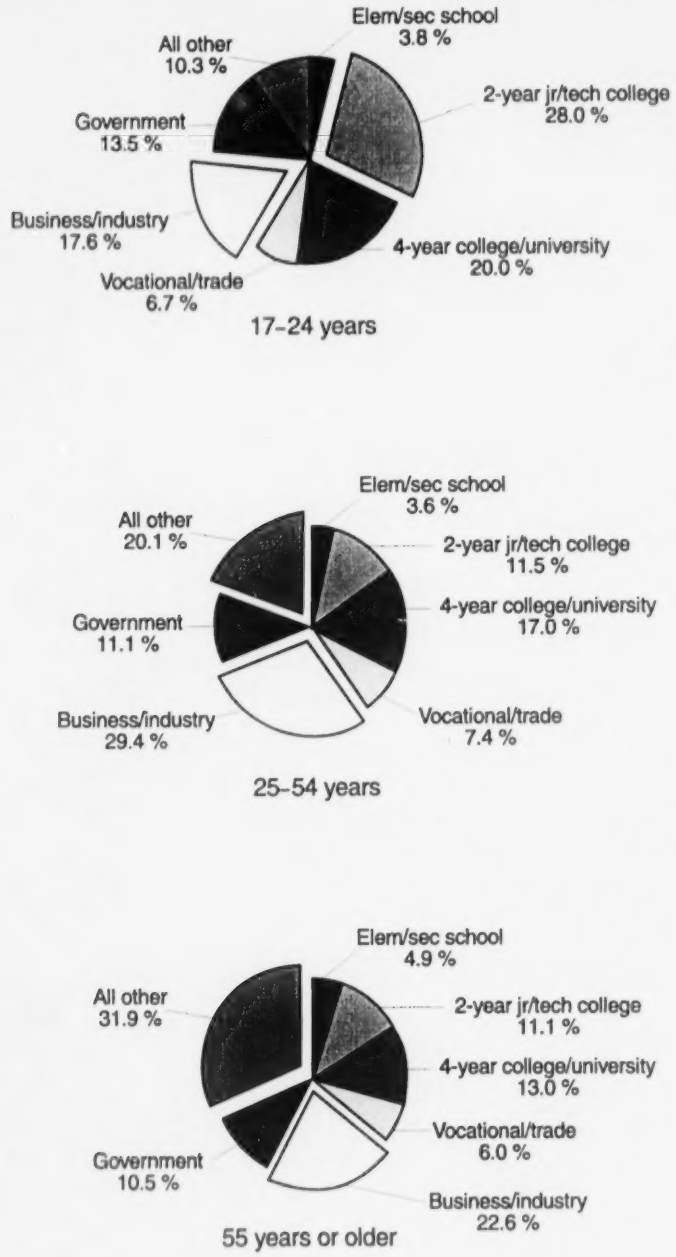






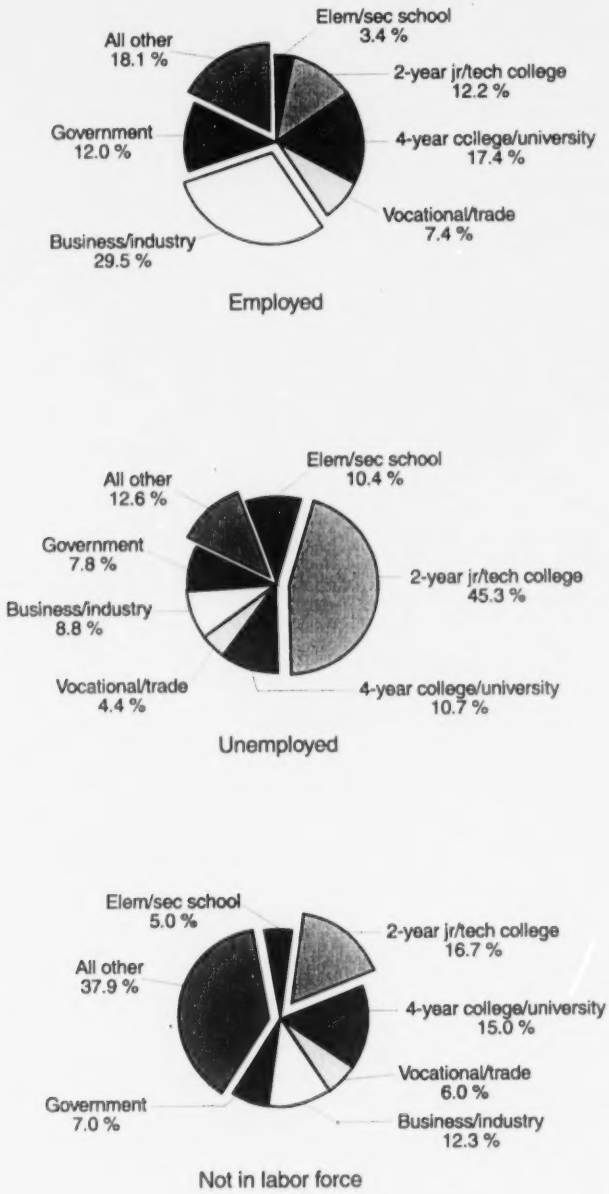
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

Figure 4.—Primary providers of adult course taking, by age of participants: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

Figure 5.—Primary providers of adult education course taking, by labor force status of course takers: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

Financial Support

Common sources of financial support for adult education course taking were the business community (36.6 percent) and the participants themselves (35.1 percent) (table 4.5).[9] State and local governments contributed financing for about 13 percent of all adult education course taking, private organizations contributed financing for about 6 percent, and the federal government contributed support for approximately 5 percent. About 9 percent of adult education course taking was reported to be given free of charge.[10]

Course taking by men was more likely than that by women to be financed, at least in part, by businesses; and interestingly, course taking by men with dependent children under 16 years old was more likely than that by women with dependent children under 16 years old to be financed by the business community. That is, 46 percent of the adult education course taking by men was paid for, at least in part, by business or industry, while less course taking by women (28.9 percent) was paid for, at least in part, by business or industry. In addition, while businesses financed, at least in part, 52 percent of the course taking by men with dependent children under 16 years old, only 28 percent of the course taking by women with dependent children under 16 years old was financially supported, at least in part, by business and industry.

Course taking by women was more likely to be financed by the individual or the individual's family than course taking by men. That is, 40 percent of the course taking by women was paid for, to some degree, by themselves or their families, while only 29 percent of the course taking by men had support from the participants or their families.

Looking at the data from another perspective, table 4.6 shows similar financing distinctions by gender. For instance, 55 percent of all course taking was by women, and women were represented in even higher proportions in course taking financed, in part, by themselves or their families, or by "other" (nonidentified) sources.[11] Of the course taking financed, in part, by the participants or their families, 63 percent was taken by women, and of the course taking supported, at least in part, by "other" sources, 91 percent was taken by women.

Sources of financing also varied by the age of the adult education participant (table 4.5 and figure 6). While 35 percent of all adult education course taking was paid for at least in part by the individual or the person's family, 44 percent of the course taking by persons 24 years old or younger was paid for, to some degree, by themselves or their families. On the other hand, 42 percent of the course taking by persons aged 25–34 and 39 percent of the course taking by persons aged 35–54 were paid for, to some degree, by the business community. Interestingly, of the course taking by persons 55 or older, 18 percent was reported to be given free of charge, while only about 9 percent of all adult education course taking was reported to be given free of charge (table 4.5). Additionally, of the course taking financed, at least in part, by business and industry, 36 percent was by persons 25–34, and close to half (48.4 percent) was by persons 35–54 years old. Only 8 percent was by persons 24 years old or younger (table 4.6).

The data indicate differences in sources of support and employment status (table 4.5). Not surprisingly, 41 percent of the course taking by employed individuals was financed, to some extent, by business or industry, while only 7 percent of the course taking by unemployed persons and 5 percent of the course taking by people not in the labor force were paid for, at least in part, by business or industry. Persons not in the labor force were among the most likely to contribute to the financing of

[9] See chapter V, "Employer Support," for data on employers as a source of financial support.

[10] Percentages may add to more than 100 because financial support could have come from more than one source.

[11] "Other" sources of financial support refers to sources not listed in the questionnaire (i.e., sources other than those cited in tables 4.5 and 4.6).

their own adult education course taking with about 53 percent of their course taking being paid for, at least in part, by the participant and his or her family (table 4.5). Interestingly, of the course taking receiving financial support from the federal government, over 80 percent (83.6 percent) was by employed individuals; only about 6 percent was by the unemployed (table 4.6).

Financial support also varied by type of industry (table 4.5). Sixty-eight percent of the course taking by persons in the transportation and public utilities industry and 64 percent of the course taking by individuals in manufacturing were financed to some extent by business and industry. In contrast, the wholesale/retail and service industries were among the industries least likely to provide financing for adult education. For example, about 33 percent of the course taking by persons in the wholesale/retail industry was paid for in part by business or industry, and 30 percent of the course taking by individuals in the service industry was financed in part by business or industry.

Cost to Participants[12]

Participants who reported that they or their families had paid at least some portion of the cost of their adult education themselves were asked about the tuition and fees paid. For about 30 percent of the course taking, individuals paid tuition and fees of less than $50. However, for about 40 percent (41.1 percent) of the course taking, individuals or their families paid between $100 and $499; and for about 13 percent, individuals or their families paid $500 or more (table 4.7).

For about 34 percent of the course taking by women, the amount paid was under $50, whereas men paid under $50 for only 24 percent of their course taking. Furthermore, men paid tuition or fees of $100 or more for almost 60 percent of their course taking; women paid tuition and fees of $100 or more for only 50 percent of their course taking.

Among all participants who paid for at least part of their own course taking, 30 percent of the course taking had tuition and fees of less than $50; however, persons 55 or older paid $50 or less for over one-half (52.9 percent) of their course taking, while persons 24 years old or younger paid $50 or less for about 18 percent of their course taking.

The data show a similar pattern at the high end of the scale. That is, of the course taking paid at least in part by the participants or their families, 54 percent required tuition and fees of $100 or more. However, of the course taking by persons 24 or younger that were paid in part by themselves or their families, about 61 percent required tuition and fees of over $100. Of the course taking that was paid at least in part by older persons (55 years old or older), only 36 percent required tuition and fees of over $100.

[12] Tuition and fee data are available only for participants who paid for at least a part of their adult education course taking themselves.

Table 4.5--Percentage of adult education course taking over a 12-month period, by source of financial support and selected demographic and labor force characteristics of participants: 1991

Selected characteristics	Source of financial support (in percent)[1]							
	Self/ family	Federal	State/ local	Business/ industry	Private	Postsecondary institution	No charge	Other
Total	35.1	4.7	12.6	36.6	5.5	0.3	9.3	0.9
Sex								
Male	29.1	4.9	11.3	46.0	5.4	0.2	8.1	0.2
Female	40.0	4.6	13.7	28.9	5.6	0.3	10.3	1.5
Male								
With children under 16	24.6	4.4	11.0	52.2	5.5	0.4	8.7	0.1
None	32.7	5.3	11.6	41.0	5.3	0.1	7.6	0.3
Female								
With children under 16	40.6	6.8	13.6	28.3	5.7	0.1	10.8	0.3
None	39.5	2.9	13.7	29.3	5.5	0.4	9.9	2.3
Race/ethnicity								
White, non-Hispanic	35.4	4.1	11.3	37.4	5.8	0.3	9.1	1.0
Black, non-Hispanic	27.1	7.2	23.9	35.3	3.4	0.1	7.3	0.3
Hispanic	37.7	6.8	14.4	30.9	4.6	0.2	14.6	0.4
Other	48.5	10.1	6.2	26.6	5.3	0.0	10.3	0.1
Age								
17-24	43.7	4.2	15.7	23.3	4.0	0.6	7.2	5.2
25-34	35.1	5.5	10.7	42.4	4.6	0.1	7.9	0.2
35-54	31.9	4.9	14.1	39.1	5.7	0.2	8.8	0.2
55 or older	38.3	2.5	8.3	24.3	9.4	0.4	18.1	0.3
Highest grade or year of school completed								
Up to 11th grade	26.7	9.3	11.9	27.1	5.1	0.0	21.6	0.5
High school diploma or equivalent	28.5	5.1	8.9	38.8	7.8	0.1	11.2	3.1
Vocational/technical school	26.6	3.7	7.0	51.6	3.5	0.3	10.7	0.1
Some college	44.5	6.9	9.5	33.1	4.5	0.4	8.1	0.3
Associate's degree	32.2	3.9	6.3	57.0	2.0	0.1	4.7	0.2
Bachelor's degree	29.8	3.1	18.9	39.2	5.3	0.3	5.9	0.5
Postbaccalaureate school	39.1	2.4	17.0	28.5	6.3	0.4	12.3	0.2
Labor force status								
Employed	32.6	4.5	13.4	41.2	5.4	0.2	7.5	0.3
Unemployed	45.1	9.2	8.9	7.4	1.8	0.4	7.2	20.0
Not in labor force	53.2	5.0	6.7	5.4	7.6	0.4	25.1	0.3
Occupation								
Managerial and professional specialty	35.4	3.9	17.6	31.5	7.0	0.2	9.9	0.3
Technical, sales and administrative support	36.7	4.5	7.1	43.0	4.4	0.3	8.3	0.3
Service workers	38.8	7.7	21.8	17.1	6.3	0.5	8.5	6.0
Precision, production, craft and repair	28.0	4.5	8.0	50.0	5.3	0.1	11.9	0.1
Operators, fabricators, laborers and farm and forest workers	36.6	10.3	6.9	32.6	3.9	0.0	12.9	0.3
Industry								
Agriculture, mining, forestry and fishing	51.6	11.4	2.3	33.0	1.4	0.0	8.4	0.2
Construction	37.1	8.7	4.5	42.7	7.2	0.3	12.7	0.0
Manufacturing	24.8	3.1	2.8	64.3	2.3	0.1	8.0	0.1
Transportation and public utilities	27.1	1.6	1.8	67.5	1.8	0.0	5.7	0.5
Wholesale and retail trade	41.7	2.8	3.9	33.1	1.9	0.1	12.6	5.4
Finance, insurance and real estate	36.0	0.9	1.3	57.2	4.9	0.0	4.4	0.4
Services	40.3	3.7	10.0	30.2	9.6	0.6	11.0	0.4
Government	28.5	12.1	47.8	7.3	3.6	0.1	7.8	0.2

[1] Percentages may total to more than 100 because respondents could report as many sources of financing as applied.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Table 4.6.--Percentage distribution of adult education course taking over a 12-month period, by selected demographic and labor force characteristics of participants and source of financial support for course taking: 1991

Selected characteristics	Source of financial support (in percent)								
	Total	Self/family	Federal	State/local	Business/ industry	Private	Postsecondary institution	No charge	Other
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sex									
Male	44.9	37.2	46.8	40.3	56.4	44.1	39.8	39.0	8.9
Female	55.1	62.8	53.2	59.7	43.6	55.9	60.2	61.0	91.1
Male									
With children under 16	44.6	37.7	40.1	43.3	50.6	45.4	n<30	48.1	n<30
None	55.4	62.3	59.9	56.7	49.4	54.6	n<30	51.9	n<30
Female									
With children under 16	42.8	43.5	63.9	42.7	42.0	43.7	14.3	44.9	9.3
None	57.2	56.5	36.1	57.3	58.0	56.3	85.7	55.1	90.7
Race/ethnicity									
White, non-Hispanic	81.9	82.7	71.2	73.5	83.8	86.8	91.3	80.6	93.5
Black, non-Hispanic	10.0	7.7	15.3	18.9	9.6	6.1	4.8	7.8	3.7
Hispanic	5.6	6.0	8.0	6.3	4.7	4.7	4.0	8.7	2.4
Other	2.6	3.6	5.5	1.3	1.9	2.5	0.0	2.9	0.4
Age									
17-24	13.0	16.2	11.5	16.2	8.2	9.5	28.4	10.0	76.0
25-34	31.4	31.4	36.4	26.5	36.4	26.1	14.0	26.6	8.7
35-54	45.2	41.1	46.7	50.4	48.4	46.7	42.7	43.1	12.0
55 or older	10.4	11.4	5.4	6.9	6.9	17.7	15.0	20.3	3.2
Highest grade or year of school completed									
Up to 11th grade	3.2	2.5	6.4	3.1	2.4	3.0	0.0	7.5	1.9
High school diploma or equivalent	21.0	17.0	22.6	14.8	22.2	29.5	6.4	25.3	73.7
Vocational/technical school	3.3	2.5	2.6	1.9	4.7	2.1	3.9	3.9	0.3
Some college	27.9	35.4	40.9	21.0	25.2	22.5	38.4	24.2	8.2
Associate's degree	5.0	4.6	4.2	2.5	7.7	1.8	2.8	2.5	1.0
Bachelor's degree	23.1	19.6	15.1	34.5	24.7	22.1	25.8	14.6	11.8
Postbaccalaureate school	16.6	18.5	8.3	22.4	13.0	19.0	22.7	22.0	3.0
Labor force status									
Employed	87.0	80.9	83.6	92.6	97.9	85.3	81.5	70.6	28.5
Unemployed	3.0	3.9	5.9	2.1	0.6	1.0	4.7	2.3	67.7
Not in labor force	10.0	15.2	10.6	5.3	1.5	13.7	13.8	27.1	3.8
Occupation									
Managerial and professional specialty	38.2	38.0	31.1	52.4	33.4	47.3	34.2	40.2	14.0
Technical, sales and administrative support	38.2	39.3	35.8	21.1	45.6	29.5	42.9	33.7	11.0
Service workers	11.2	12.2	18.0	19.1	5.3	12.4	20.3	10.1	73.4
Precision, production, craft and repair	9.4	7.4	8.7	5.8	13.0	8.8	2.6	11.8	0.5
Operators, fabricators, laborers and farm and forest workers	3.0	3.1	6.4	1.6	2.7	2.1	0.0	4.2	1.0
Industry									
Agriculture, mining, forestry and fishing	2.3	3.3	5.4	0.4	2.1	0.6	0.0	2.0	0.4
Construction	2.5	2.6	4.5	0.9	3.0	3.2	2.6	3.3	0.0
Manufacturing	13.7	9.5	8.7	3.0	24.7	5.7	4.5	11.6	1.5
Transportation and public utilities	4.7	3.6	1.5	0.7	8.9	1.5	0.0	2.8	2.4
Wholesale and retail trade	12.5	14.6	7.3	3.8	11.6	4.2	5.3	16.6	71.9
Finance, insurance and real estate	7.5	7.6	1.4	0.7	12.0	6.4	0.6	3.4	2.9
Services	40.5	45.7	31.0	30.9	34.3	68.3	83.5	46.8	16.6
Government	16.3	13.0	40.3	59.7	3.3	10.3	3.4	13.4	4.1

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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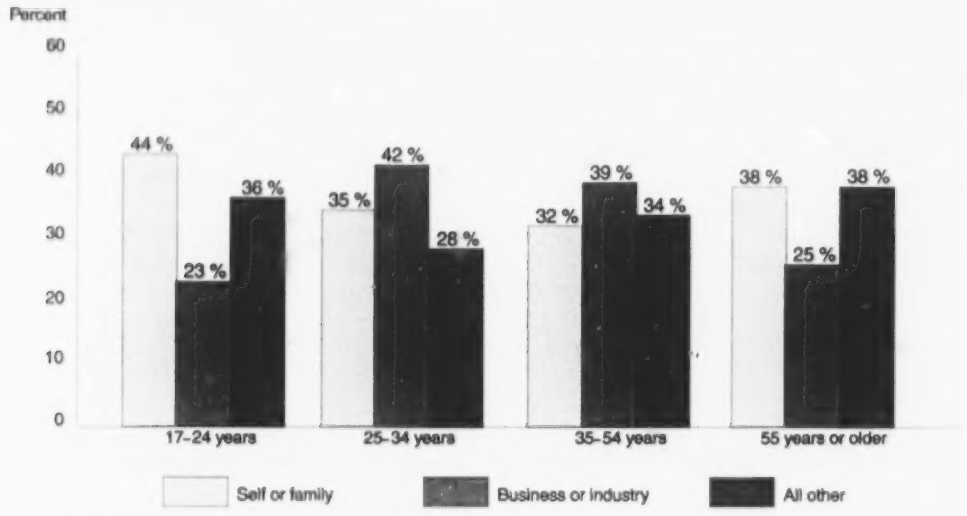
Figure 6.—*Adult education course taking, by age and source of support: 1991*



NOTES: Percentages may total to more than 100 because respondents could report as many sources of financing that applied.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Table 4.7.–Average cost and percentage distribution of adult education course taking[1] over a 12-month period, by amount of tuition and fees per course taking paid at least in part by individuals or their families and selected demographic and labor force characteristics of participants: 1991

Selected characteristic	Average cost per course taking	Tuition and fees (in percent)					
		Total	*$1-$10*	*$11-$49*	*$50-$99*	*$100-$499*	*$500 & over*
Total	$247	100.0	5.9	24.5	16.0	41.1	12.6
Sex							
Male	316	100.0	4.8	19.4	16.7	43.0	16.1
Female	206	100.0	6.5	27.5	15.5	39.9	10.6
Male							
With children under 16	285	100.0	3.9	21.0	15.5	46.5	13.1
None	335	100.0	5.3	18.4	17.4	41.1	17.8
Female							
With children under 16	192	100.0	6.4	29.7	13.6	40.7	9.6
None	217	100.0	6.7	25.7	17.0	39.2	11.3
Race/ethnicity							
White, non-Hispanic	228	100.0	6.4	24.6	16.4	40.5	12.1
Black, non-Hispanic	349	100.0	2.4	17.8	11.2	51.8	16.8
Hispanic	225	100.0	3.9	31.0	13.2	40.3	11.7
Other	513	100.0	4.6	25.0	21.0	33.0	16.4
Age							
17-24	312	100.0	3.5	14.8	21.2	44.7	15.9
25-34	285	100.0	4.2	25.8	13.8	41.3	14.9
35-54	222	100.0	5.4	23.5	16.6	43.3	11.1
55 or older	146	100.0	15.5	37.4	12.4	27.2	7.4
Highest grade or year of school completed							
Up to 11th grade	261	100.0	8.4	25.0	19.6	35.5	11.5
High school diploma or equivalent	212	100.0	6.8	28.7	21.1	33.7	9.7
Vocational/technical school	150	100.0	7.4	43.2	25.0	14.3	10.1
Some college	268	100.0	5.1	24.3	14.2	42.4	14.0
Associate's degree	206	100.0	1.1	19.9	22.3	52.7	3.9
Bachelor's degree	244	100.0	5.8	22.2	14.0	45.3	12.6
Postbaccalaureate school	263	100.0	7.2	21.8	13.4	42.3	15.2
Labor force status							
Employed	255	100.0	5.1	22.3	16.4	43.3	12.9
Unemployed	184	100.0	0.7	27.1	18.7	47.3	6.2
Not in labor force	218	100.0	11.8	35.5	12.9	27.0	12.8
Occupation							
Managerial and professional specialty	215	100.0	7.5	20.7	16.4	42.8	12.6
Technical, sales and administrative support	251	100.0	5.0	26.7	15.0	42.2	11.1
Service workers	245	100.0	4.0	31.4	16.5	34.7	13.3
Precision, production, craft and repair	355	100.0	4.2	20.3	22.4	34.8	18.3
Operators, fabricators, laborers and farm and forest workers	298	100.0	7.9	21.2	9.4	46.2	15.2
Industry							
Agriculture, mining, forestry and fishing	291	100.0	6.9	26.0	9.9	33.1	24.0
Construction	545	100.0	4.9	11.0	14.9	39.0	30.2
Manufacturing	210	100.0	5.4	21.0	21.8	41.1	10.6
Transportation and public utilities	251	100.0	1.5	25.4	15.5	48.9	8.7
Wholesale and retail trade	285	100.0	4.8	19.2	14.2	45.4	16.4
Finance, insurance and real estate	179	100.0	3.7	32.4	14.8	42.8	6.3
Services	231	100.0	5.9	25.0	16.6	40.3	12.2
Government	175	100.0	8.5	25.9	15.0	42.4	8.3

[1] Includes only course taking for which there was a charge to the participant.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Chapter V: Employer Support

Employers play a crucial role in adult education. In the 12-month period prior to the spring of 1991, they provided financial support for about one-half of all adult education course taking (table 5.1). This chapter examines additional types of support that employers provided for part-time education, including actually providing the instruction, holding the course at the employment site, giving employees time off to take the course, and requiring employees to take specific courses or to participate in certain educational activities.

Clearly, employer support for an adult education activity is only relevant to individuals who were employed at the time they participated in that activity. Thus, questions on the Adult Education survey concerning specific types of employer support were asked only of those individuals who were employed when they took the course. However, the data in table 5.1 are displayed in terms of the percentage of all course taking by adult education participants rather than in terms of the percentage of course taking by those who were employed when they took the course.

Table 5.1 shows that over 60 percent (63.2 percent) of all adult education course taking had some type of employer involvement. For 44 percent of the course taking, employers provided participants with time off. In addition, 34 percent of the course taking was in courses provided by the employer, 28 percent of the course taking was in courses provided on-site at the participant's place of employment, and 25 percent of the course taking was in employer-required courses.[13]

Employers were more likely to give time off for adult education than to require a course, to offer on-site training, or to be the provider of the course. That is, while employers provided time off for 44 percent of course taking, significantly fewer (27.6 percent) of the course takings were offered on-site, only 25 percent was employer-required, and 34 percent was in courses provided by the employer.

Course taking by men was more likely than that by females to be supported by employers. While 72 percent of the course taking by men had some employer involvement, substantially less (56.2 percent) of the course taking by women had some employer involvement. In fact, employers provided time off to men for 52 percent of their course taking, while providing time off for only 38 percent of the course taking by women. Employers also contributed financial support to 57 percent of the course taking by men, while contributing financial support to only 43 percent of the course taking by women (table 5.1 and figure 7).

While 63 percent of the course taking by all participants had some type of employer support, about 68 percent of the course taking by persons between 35 and 54 years old had some type of employer support. In addition, employers provided time off for 50 percent of the course taking by person between 35 and 54 years old, but provided time off for only 34 percent of the course taking by persons 55 years old or older, and 39 percent of the course taking by persons 24 years old or younger.

The data also indicate that course taking by persons who completed a vocational program or persons who received an associate's or a bachelor's degree, was more likely to be supported by employers than course taking by the adult education population, as a whole. As already noted, over 60 percent of all adult education course taking had some type of employer involvement. However, 71 percent of the course taking by persons with a vocational degree, 74 percent of course taking by persons with an associate's degree, and 71 percent of the course taking by persons with a bachelor's degree had some type of employer involvement. Additionally, time off and/or employer financial support were more

[13] In this chapter, the data are examined in terms of the number of adult education course takings rather than the number of participants and asks "of the course taking..." what support was provided by the employer.

likely to be provided for course taking by persons with an associate's degree or higher than for course taking by participants as a whole.

Looking across industries, course taking by persons in the transportation and utility industries were more likely than course taking by participants as a whole to have employer support. For instance, of course taking by persons in the transportation and public utilities industries, 76 percent had some employer involvement, about 46 percent was provided by the employer, 35 percent was held on-site, 37 percent was employer-required, 63 percent was paid, at least in part, by employers, and time off was given for 59 percent. Course taking by persons in the wholesale/retail industry was the least likely to be financially supported by their employers. For example, of the course taking by persons in the wholesale/retail industry, 52 percent had some employer involvement, only 26 percent was employer-provided, 20 percent was given at work, and about 31 percent was financed, to some degree, by the participant's employer.

Table 5.1.–Percentage of adult education course taking over a 12-month period, by type of employer support and selected demographic and labor force characteristics of participants: 1991

Selected Characteristic	Any type	Employer support[1] Provided course	Given at work	Required course	Provided time off	Contributed financial support
Total	63.2	34.2	27.6	24.7	44.3	49.2
Sex						
Male	71.9	38.4	30.9	28.4	51.8	57.3
Female	56.2	30.8	24.9	21.6	38.2	42.6
Male						
With children under 16	77.8	38.5	32.0	26.1	58.3	60.3
None	67.2	38.3	30.1	30.2	46.7	54.9
Female						
With children under 16	54.3	29.2	25.2	21.6	37.1	41.8
None	57.6	31.9	24.6	21.6	39.1	43.2
Race/ethnicity						
White, non-Hispanic	63.7	32.8	27.0	22.8	46.0	49.3
Black, non-Hispanic	65.1	49.2	34.9	43.1	35.7	56.5
Hispanic	59.0	32.9	25.3	24.5	39.3	41.7
Other	50.7	23.8	22.4	14.1	36.2	33.2
Age						
17-24	57.2	33.5	21.4	25.6	39.0	38.5
25-34	64.5	35.3	28.8	26.9	41.7	52.9
35-54	67.5	34.9	29.2	23.9	50.1	52.8
55 or older	48.6	28.6	24.7	19.8	34.0	35.6
Highest grade or year of school completed						
Up to 11th grade	43.0	24.9	24.6	20.4	27.7	30.7
High school diploma or equivalent	63.5	34.9	29.2	29.6	38.3	49.2
Vocational/technical school	70.9	40.9	41.4	38.0	50.1	54.6
Some college	54.4	28.7	22.9	20.3	37.5	42.1
Associate's degree	74.2	44.7	41.1	34.6	60.5	62.9
Bachelor's degree	70.8	41.3	28.0	26.8	52.6	59.6
Postbaccalaureate school	66.3	30.0	26.6	18.0	49.2	44.9
Labor force status						
Employed	70.0	38.3	30.9	27.5	49.1	55.4
Unemployed	40.1	7.5	7.2	9.6	30.7	8.0
Not in labor force	11.5	6.8	4.9	4.8	6.8	8.0
Occupation						
Managerial and professional specialty	68.2	36.0	28.0	22.6	49.8	51.3
Technical, sales and administrative support	61.9	33.6	26.4	21.7	44.2	51.2
Service workers	56.0	25.1	22.8	27.9	39.8	35.8
Precision, production, craft and repair	62.5	38.5	31.8	30.7	43.2	52.2
Operators, fabricators, laborers and farm and forest workers	53.9	22.7	20.4	32.9	35.2	30.5
Industry						
Agriculture, mining, forestry and fishing	48.7	17.3	14.1	22.9	35.2	33.8
Construction	54.2	22.3	13.1	17.3	34.7	44.7
Manufacturing	70.1	45.6	37.1	22.6	50.1	64.4
Transportation and public utilities	75.8	45.6	35.1	36.8	58.9	62.8
Wholesale and retail trade	51.7	25.8	19.9	20.7	39.7	30.8
Finance, insurance and real estate	70.8	32.0	26.1	19.5	48.6	58.8
Services	60.7	28.3	25.8	21.1	42.0	43.7
Government	70.3	44.8	29.2	34.2	51.5	56.6

[1] Percentages may total to more than 100 because employers could have provided more than one type of support.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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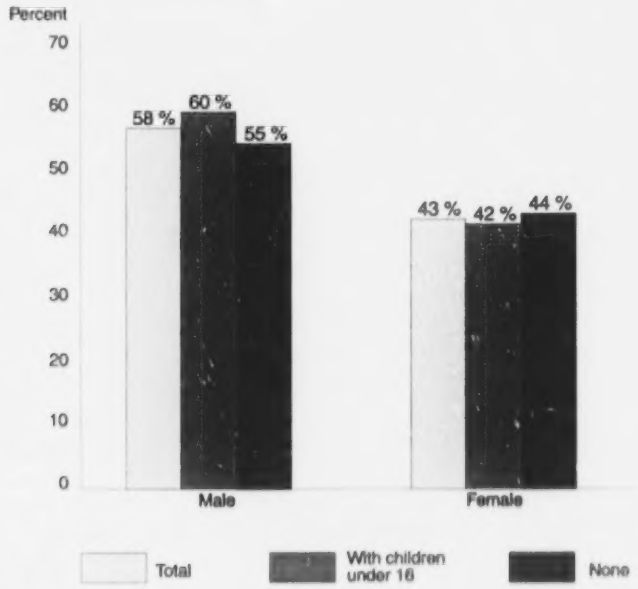
Figure 7.—Adult education course taking for which employer provided some support, by sex and dependents under 16 years old: 1991



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Chapter VI: Barriers to Participation in Adult Education[14]

Surprisingly, nonparticipants in adult education were less likely than participants to report barriers to participation in adult education (56.8 and 70.0 percent, respectively) (tables 6.2 and 6.1, respectively). However, this was not true for all nonparticipants. For instance, female nonparticipants with dependent children under 16 years old, younger nonparticipants (34 years old or younger), and unemployed nonparticipants were among the most likely of all adults to report barriers to participation in adult education (table 6.2).

Among the most commonly cited barriers to participation for both participants and nonparticipants were "work schedules," "meeting times," "cost," and "family responsibilities." While both participants and nonparticipants faced similar obstacles to participating in adult education activities, a higher percentage of participants than nonparticipants reported these factors as barriers. That is, 41 percent of participants said that their "work schedule" made it difficult to participate in adult education, while 32 of nonparticipants cited this as a concern; 36 percent of participants reported "meeting times" as a hindrance to participation, only 24 percent of the nonparticipants reported this as a problem; 34 percent of the participants said that "cost" interfered with their participation, while 27 percent of the nonparticipants said this was a concern; and while 30 percent of the participants said that "family responsibilities" interfered with their participation in adult education, significantly fewer (23.4 percent) of the nonparticipants reported this as a barrier.

Not surprisingly, women with dependent children under 16 years old were more likely than other adults as a whole to report "child care" as a barrier to participation in adult education. While about 15 percent of all participants and nonparticipants reported "child care" as a hindrance to participation in adult education, 42 percent of female participants with dependents under 16 years old and 49 percent of female nonparticipants with dependents under16 years old said that "child care" interfered with their participation in adult education.

Regardless of participation status, persons 55 or older were less likely than younger participants and nonparticipants to report barriers to participation in adult education. While, on average, 74 percent of participants under 55 years old reported barriers to participation in adult education, only 47 percent of participants 55 or older reported barriers to participation. In addition, while about 71 percent of nonparticipants under 55 years old reported barriers to participation, only 35 percent of nonparticipants 55 years old or older reported barriers to participation.

Also regardless of participation status, persons with associate's degrees were among the most likely to cite barriers to participation in adult education. That is, 82 percent of participants and 73 percent of nonparticipants with associate's degrees cited barriers to participation in adult education, while, on average, about 71 percent of participants and 56 percent of nonparticipants with other degrees or fewer years of formal schooling cited barriers to participation.

Unemployed nonparticipants were more likely than nonparticipants as a whole to cite "cost" as a concern. That is, while 42 percent of all unemployed nonparticipants cited "cost" as barrier to participation in adult education, only 27 percent of all nonparticipants said that "cost" was an obstacle

[14] Both participants and nonparticipants were asked to report perceived barriers to participation in adult education. Part-time participants who were also enrolled full time (i.e., 29 percent of part-time participants) were not asked this question.

to participation. Among participants, however, the unemployed were equally as likely as all participants to cite "cost" as a barrier (39.6 and 33.5 percent, respectively).

Table 6.1.–Percent of participants 17 years old or older reporting barriers to participation in adult education, by selected demographic and labor force characteristics: 1991 [1]

Selected Characteristic	Barriers to participation [2]										
	Any	Work schedule	Meeting times	Cost	Location	Lack of Transportation	Child care	Family resp	Lack of information	Classes of interest not offered	Other
Total	70.0	41.3	35.5	33.5	21.9	6.1	15.1	29.8	15.6	19.3	1.7
Sex											
Male	66.9	44.2	36.0	28.5	20.6	4.7	8.6	24.8	17.4	19.1	2.0
Female	72.7	38.9	35.0	37.6	23.0	7.4	20.6	34.0	14.0	19.4	1.4
Male											
With children under 16	73.7	50.6	39.3	31.0	21.6	2.4	16.2	37.9	17.7	19.7	1.6
None	61.2	38.9	33.3	26.4	19.8	6.5	2.4	14.0	17.1	18.6	2.4
Female											
With children under 16	79.5	40.5	35.9	44.4	23.8	8.4	42.3	51.3	14.4	18.6	1.2
None	66.7	37.4	34.3	31.7	22.3	6.4	1.4	18.7	13.6	20.1	1.6
Race/ethnicity											
White, non-Hispanic	68.8	39.6	33.9	31.8	20.7	4.9	14.1	30.0	13.5	18.7	1.6
Black, non-Hispanic	72.7	50.3	46.6	40.4	27.5	11.3	22.7	27.2	25.1	23.4	2.7
Hispanic	81.5	51.6	40.8	44.9	26.4	14.7	19.4	29.8	27.4	20.2	1.3
Other	73.4	42.5	37.0	37.3	33.1	8.1	14.0	32.1	22.9	24.1	2.5
Age											
17-24	71.8	40.0	34.7	38.6	17.9	10.4	15.2	17.9	17.4	21.7	2.7
25-34	79.0	46.9	39.9	42.5	22.9	5.8	22.6	34.4	18.9	19.7	1.9
35-54	70.7	43.0	36.0	30.7	22.3	4.8	13.5	33.9	14.9	20.0	1.5
55 or older	47.4	24.1	24.2	19.7	20.5	8.8	4.4	13.1	9.2	14.5	1.4
Highest grade or year of school completed											
Up to 11th grade	77.3	40.8	31.4	42.8	25.5	24.4	27.4	14.2	22.2	23.1	0.5
High school diploma or equivalent	66.1	36.0	30.9	38.1	19.0	7.7	15.1	27.6	16.2	16.3	1.7
Vocational/technical school	74.6	48.9	39.8	42.6	24.2	9.4	11.2	28.4	26.6	17.3	2.4
Some college	74.1	42.0	37.1	33.6	19.5	4.2	17.0	35.7	14.8	20.8	1.8
Associate's degree	82.3	52.1	46.2	41.1	33.4	2.5	15.3	36.3	15.7	33.1	0.4
Bachelor's degree	69.0	42.5	36.9	26.5	20.9	2.8	13.1	30.8	13.9	17.3	2.1
Postbaccalaureate school	64.6	43.1	36.7	26.0	27.2	3.7	11.3	28.1	12.0	20.1	1.5
Labor force status											
Employed	72.5	46.5	39.3	34.9	23.2	5.6	14.1	30.8	16.3	20.0	1.8
Unemployed	70.4	41.7	25.1	39.6	15.7	12.8	21.0	15.1	19.6	25.1	2.4
Not in labor force	54.6	9.4	14.7	23.0	15.6	8.0	20.3	27.4	10.2	13.2	2.1
Occupation											
Managerial and professional specialty	72.7	45.3	39.3	31.8	25.7	3.3	15.1	34.4	13.5	20.1	1.2
Technical, sales and administrative support	71.6	41.3	36.6	34.8	21.9	6.6	16.8	31.2	15.1	18.8	2.0
Service workers	71.0	38.6	34.1	36.8	18.8	9.3	17.8	31.0	15.3	18.6	2.2
Precision, production, craft and repair	72.7	42.2	34.5	39.0	18.9	5.3	11.0	24.8	21.1	23.4	1.2
Operators, fabricators, laborers and farm and forest workers	65.8	41.7	25.3	28.4	21.6	15.7	15.6	17.0	18.3	14.6	3.4
Industry											
Agriculture, mining, forestry and fishing	70.4	34.1	13.7	18.1	16.0	4.3	9.1	31.1	12.7	16.6	2.6
Construction	62.7	36.9	26.4	28.0	17.3	3.8	9.6	23.9	20.9	25.1	0.1
Manufacturing	72.4	44.8	38.4	34.3	22.9	8.0	16.0	27.3	16.6	22.1	2.3
Transportation and public utilities	64.9	48.6	36.9	21.8	22.7	8.7	11.0	27.2	17.4	18.0	1.9
Wholesale and retail trade	71.2	39.7	31.0	35.5	15.1	3.5	16.8	29.9	16.6	16.9	1.6
Finance, insurance and real estate	74.1	43.6	37.5	37.7	23.3	3.2	21.8	36.0	11.8	14.8	0.8
Services	74.2	43.5	38.5	37.5	24.2	7.4	16.9	33.3	16.6	20.2	2.1
Government	69.4	40.5	38.6	32.4	24.7	4.6	12.3	29.9	10.6	20.0	1.2

[1] Individuals enrolled in school full-time at some point during the 12-month period were not asked this question (i.e., this population represents 2.9 percent of the adult education population).

[2] Percentages may add to more than 100 since respondents could report more than one barrier.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Table 6.2.--Percent of nonparticipants 17 years old or older reporting barriers to participation in adult education, by selected demographic and labor force characteristics: 1991[1]

Selected Characteristic	Barriers to participation[2]										
	Any	Work schedule	Meeting times	Cost	Location	Lack of Transportation	Child care	Family resp	Lack of information	Classes of interest not offered	Other
Total	56.8	31.5	23.7	27.3	15.9	10.9	15.2	23.4	15.1	13.2	1.3
Sex											
Male	52.7	35.5	23.5	21.3	14.3	6.8	8.6	16.6	14.3	13.7	1.0
Female	60.3	28.1	23.8	32.3	17.1	14.2	20.7	29.1	15.7	12.8	1.5
Male											
With children under 16	68.0	50.1	33.8	31.9	18.0	8.3	19.6	33.1	21.0	19.3	0.5
None	44.1	27.3	17.7	15.4	12.2	6.0	2.3	7.3	10.5	10.5	1.2
Female											
With children under 16	80.4	41.1	32.3	46.6	21.9	16.0	49.1	50.0	24.5	18.9	1.8
None	48.8	20.7	19.0	24.1	14.4	13.2	4.5	17.2	10.8	9.3	1.4
Race/ethnicity											
White, non-Hispanic	54.6	29.5	20.9	26.0	14.3	8.2	13.0	23.2	12.9	11.5	1.3
Black, non-Hispanic	57.0	37.2	31.1	33.7	17.5	16.8	19.7	20.4	19.4	20.0	1.6
Hispanic	75.6	38.4	36.9	28.9	24.9	25.7	30.5	31.8	31.6	21.2	0.6
Other	67.2	43.3	33.8	34.2	28.5	16.9	11.9	19.9	11.3	6.9	0.0
Age											
17-24	73.1	45.4	30.0	31.9	10.1	14.3	15.0	11.1	18.0	16.5	1.2
25-34	74.7	46.3	33.0	42.0	20.4	13.8	34.5	40.7	24.4	19.2	1.1
35-54	65.3	39.3	30.2	30.7	17.3	8.3	14.2	27.0	17.0	14.1	1.9
55 or older	34.6	12.2	10.6	13.8	12.5	10.6	3.4	10.9	6.7	7.8	0.8
Highest grade or year of school completed											
Up to 11th grade	50.6	26.7	16.7	23.0	17.4	15.6	16.0	23.5	15.3	12.6	1.5
High school diploma or equivalent	58.0	33.2	25.6	31.3	14.3	12.2	15.3	23.1	15.3	12.5	1.2
Vocational/technical school	58.7	29.5	27.1	34.2	25.5	11.5	9.3	11.7	17.8	18.3	0.4
Some college	63.9	37.1	30.9	31.2	16.5	8.3	18.1	28.7	14.6	15.7	1.5
Associate's degree	72.9	38.6	34.1	48.0	20.6	13.0	31.5	51.0	24.7	18.5	0.1
Bachelor's degree	50.3	29.1	19.1	11.0	12.6	1.7	8.4	17.0	13.2	10.6	0.8
Postbaccalaureate school	57.2	23.8	17.9	16.3	17.4	2.9	13.1	20.8	10.8	13.0	3.0
Labor force status											
Employed	54.6	44.5	32.2	32.3	17.5	9.6	16.2	24.1	17.7	15.2	1.2
Unemployed	82.0	30.9	14.2	41.5	19.1	22.5	32.2	41.4	43.6	30.1	0.1
Not in labor force	42.7	13.6	13.2	18.5	13.2	10.9	11.4	20.0	7.5	8.1	1.5
Occupation											
Managerial and professional specialty	54.8	26.9	25.9	23.3	17.7	7.2	12.7	23.5	12.6	10.8	1.1
Technical, sales and administrative support	63.0	32.4	26.9	30.5	15.6	9.4	18.3	29.2	15.1	14.7	1.1
Service workers	62.5	35.4	25.1	33.5	18.1	22.2	19.0	22.2	21.9	17.9	1.9
Precision, production, craft and repair	53.4	30.4	21.3	26.1	12.7	6.0	12.7	20.7	15.7	9.3	0.6
Operators, fabricators, laborers and farm and forest workers	60.3	46.9	21.7	30.5	19.8	12.6	13.9	21.9	15.0	16.1	1.4
Industry											
Agriculture, mining, forestry and fishing	54.5	41.8	23.0	28.5	23.7	12.4	9.5	14.2	10.1	9.0	0.0
Construction	70.0	48.2	33.7	35.1	19.4	6.4	14.7	30.2	29.6	20.3	0.4
Manufacturing	54.4	28.4	19.2	26.0	13.7	7.7	14.5	22.2	15.1	6.9	0.6
Transportation and public utilities	51.1	37.4	21.0	28.9	9.8	1.0	16.6	25.2	7.1	10.9	0.0
Wholesale and retail trade	58.2	34.8	29.6	30.0	14.9	11.2	16.2	20.6	16.0	13.0	0.6
Finance, insurance and real estate	65.0	26.8	22.9	18.9	18.7	10.2	16.1	30.6	14.7	13.2	2.8
Services	65.7	34.8	27.3	33.3	19.9	18.1	19.0	28.1	18.8	17.4	1.7
Government	53.5	23.0	20.6	24.2	9.3	7.2	15.4	26.6	13.2	16.7	2.2

[1] Individuals enrolled in school full-time at some point during the 12-month period were not asked this question.

[2] Percentages may add to more than 100 since respondents could report more than one barrier.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Chapter VII: Summary

The National Education Goals that were developed in 1989 emphasized the importance of lifelong learning and the need for training and retraining to impart skills needed for the workforce. If one accepts the premise that part-time education would be the primary vehicle for pursuing lifelong learning and job training, then the NHES:91 Adult Education survey is an excellent mechanism for measuring the current status of these pursuits.

The results from the NHES:91 Adult Education component indicate that almost one-third of all adults in the United States over the age of 16 participated in some kind of part-time educational activity between the spring of 1990 and the spring of 1991. The results also indicate that, on average, participants spent 11 hours per week on their part-time education, with the average course taking lasting about 5 weeks. This translates to over 9 million full-time equivalent students (FTE), an FTE student count that is almost equivalent to the number of FTE students in all colleges and universities in the United States.[15] From these results, it is reasonable to conclude that there is substantial interest and involvement in lifelong learning among adults in the nation.

Who are these participants? Why do they participate? What kind of support do they get for this activity? And, what is their personal commitment to part-time learning?

In profiling participants, the results of the NHES:91 Adult Education component suggest that men and women were equally likely to engage in some kind of part-time education and that men and women with dependent children were more likely than those with no children to take an adult education course. They also indicate that participants tend to be white rather than a member of a racial/ethnic minority, they are likely to have had some postsecondary education or to have completed a college degree, to be in the labor force and employed, to have white collar jobs, and to work generally in professional and professionally-related industries.

Most participants indicated that the reason for taking a specific adult education course was job-related, primarily for advancement on the job, although about 6 percent of all course taking was to train for a new job. Another 20 percent of the course taking was for personal or social reasons. These results reflect the perspective of the entire population of adult participants. However, reasons for enrolling in an educational activity on a part-time basis varied somewhat predictably with the characteristics of the participant. More course taking by women than that of men was for personal or social reasons or to meet diploma or degree requirements. Younger adults, that is, those of "traditional" college age (17- to 24-year-olds) were more likely than older adults to take courses because the courses were required for a degree or diploma. However, an equal percent of the courses taken by these younger adults were taken for job advancement. Over 65 percent of the course taking by middle-aged adults (25 to 54 years old) was for job-related reasons, while older Americans (over 54 years old) took courses equally often for personal reasons or for job advancement. Among employed adults, almost 70 percent of the course taking was job-related; and even among those who were not employed at the time of the survey, almost half their course taking was job-related. Thus, not only is lifelong learning happening, but much of it is happening to enhance workplace opportunities.

The support for the part-time education of adults also seems to come from all sectors of the community. About 60 percent of part-time course taking was provided by other than traditional schools or colleges. Business and industry, labor unions, various levels of government, and community groups all provided a significant number of adult education opportunities. However, the

[15] Approximately 9.4 million FTE students were enrolled in higher education institutions in the fall of 1990, based on the Integrated Postsecondary Education Data Systems (IPEDS) 1990 Fall Enrollment Survey.

interaction between the provider of part-time instruction and the characteristics of individuals who participate in that instruction, suggested by the results of the Adult Education survey, are of interest and warrant some discussion. Business and industry and labor unions or professional associations provided courses for more than 45 percent of the course taking by men but for less than 30 percent of the course taking by women. Almost one-quarter of the course taking by Hispanics was in courses provided by 2-year colleges. Two- and 4-year colleges provided courses for almost one-half of the course taking by younger adults (17 to 24 years old) but for only 30 percent or less of the courses taking by individuals 25 years of age or older. Forty percent of course taking by employed adults was in courses provided by business and industry or labor unions and professional associations. However, these organizations provided courses for fewer than 16 percent of the course taking by nonworking adults.

Employers, it would seem, were particularly supportive of part-time education. For about half of part-time course taking by adults, employers contributed at least some financial support; and about 63 percent of the course taking by employees was supported in some way by their employers. However, there were a few downsides to employer support. Course taking by men was more likely than that by women to receive employer support; this was especially true of financial support and support in the form of receiving time off to take the course. Individuals in the construction, service, and wholesale and retail trade industries were less likely than all participants to have employers support their part-time education.

Clearly, while there appears to be a strong commitment to adult education in the community, particularly the business community, the commitment of participants to their own part-time education is more difficult to gauge directly. Some indications of this commitment may be gleaned from reports of the "class" time participants spent on adult education and by their own financial support for their education. Participants in adult education took an average of three courses over a 12-month period. Each course averaged about 11 hours per week and ran for an average of 5 weeks. This means that over a 12-month period, participants spent about 2 percent of their total waking time (16 hours per day) in an educational activity. Among participants who were employed 40 hours per week during the entire year, about 6 percent of their discretionary time was spent in a part-time educational activity.

In terms of financial commitment, more than one-third of course taking by adult participants was financed, at least in part, by themselves or their families. This was especially true of women, younger participants (17- to 24-year-olds), and adults who were not working (unemployed or not in the labor force). Participants or their families who paid for some portion of course tuition and fees paid an average of about $247 per course taking. This amount, when spread among all course taking on a part-time basis, translates to an average of about $79 per course taking. Since participants took an average of 2.8 courses over a 12-month period, participants and/or their families spent over $221 a year on part-time educational activities.

Interestingly, in reporting perceived barriers to participating in adult education, both "meeting times" and "cost" were among the reasons most often cited by participants and nonparticipants. Other frequently cited reasons for not participating included "work schedule" and "family responsibilities." "Cost" was an especially important barrier to women with dependent children and unemployed individuals; "time" was especially problematic to employed adults; and "work schedule" was a consideration for men with dependent children. These reported barriers and their relative importance in hindering participation are of interest and may suggest some ways that education planners and practitioners could facilitate adult participation in part-time education.

Appendix: Technical Notes

Survey Methodology

The 1991 National Household Education Survey (NHES:91) was a telephone survey conducted by the U.S. Department of Education's National Center for Education Statistics (NCES). Data collection took place between late January and early May of 1991. The sample was nationally representative of all civilian, noninstitutionalized persons in the 50 states and the District of Columbia. This sample was selected, and the data collected, using random-digit-dialing (RDD) methods and a computer-assisted telephone interviewing (CATI) technology.

Two different survey instruments were used to collect data for the Adult Education component. The first instrument, a household "screener" administered to an adult member of the household, was used to enumerate each adult over the age of 15, including those living away from home in school housing. The screener respondent was asked a series of items about each adult's educational participation over the 12 months preceding the survey. Adults who were enrolled full time in high school or elementary school at the time of the survey were not sampled. Adults identified as having been enrolled part time in some educational activity in the 12 months preceding the survey were sampled with certainty; full-time students were sampled at a rate of 50 percent; and adults who had not participated or were not participating in any educational activity were sampled at a rate of about 8 percent.

Participation status determined from the screener was used for sampling purposes only. Once an adult was sampled for an interview, the interview responses of the adult were used to determine participation status, rather than information provided in the screener.

Response Rates

In the NHES:91, the household screener response rate was 81 percent. Based on the screener, a total of 14,226 adults was sampled. Of these, 32 were ineligible and 12,568 were interviewed. The weighted completion rate of the adult interview (AE) was 84.7 percent. Of the adults interviewed, there were 9,774 respondents who participated in some educational activity (either full or part time) and 2,794 nonparticipants. The overall weighted response rate for the Adult Education component was 69 percent (the product of the household screening response rate and the AE interview completion rate).

With only a few exceptions, items in the AE interview had high response rates. Selected item response rates for the adult education interview are shown below:

Item	*Response rate*
Participation items	
• Full-time school in past 12 months	99.9
• Part-time college in past 12 months	99.9
• Continuing education in past 12 months	99.9
• Other adult education in past 12 months	99.9
• Any job benefit to adult education	96.3
• Any basic skills benefit to adult education	96.7
• Use for adult education to obtain license	96.5

Item	*Response rate*
Course or activity items	
• Main reason for taking	98.7
• Any management training component	99.2
• Any other training component	99.1
• Required for diploma or degree	98.5
• Provider of instruction	97.7
• Provider was also employer	97.7
Demographic items	
• Race*	99.4
• Hispanic origin*	99.8
• Worked last week	99.2
• Occupation*	98.5
• Industry*	98.0
• Looking for work	80.6
• Highest grade attended*	95.6

*Items for which missing values were imputed.

Imputation

A nearest neighbor, hot-deck procedure was used to impute missing responses for selected items. In this approach, the entire file was placed into a specified sort order that varied depending on the data item to be imputed. The sort order was determined by attempting to group respondents into those most likely to have the same response for the data item to be imputed. An example of an imputed variable is whether the adult received a high school diploma or its equivalent. The sort variables were highest grade or year of school completed, the respondent's age, and full-time enrollment status. The use of these sort variables, in combination, assured that the donor and the recipient were similar on all of these characteristics. Using the sorted file, whenever a case with a missing value was encountered during the imputation process, the value of the data item from the preceding complete case was imputed for the missing item.[16]

In keeping with procedures used for previous surveys of participants in adult education, the Adult Education component of NHES:91 asked respondents to describe the four most recent courses taken on a part-time basis. However, it also asked the total number of courses that had been taken in the 12 months preceding the survey. About 90 percent of the respondents (85 percent of participants) indicated that they had taken five or more courses, and there was detailed information on only about 75 percent (weighted number) of all courses taken. To account for the 25 percent of "missing" course information in the distribution of courses (tables in chapters 4 and 5), selected course information was imputed.

The imputation strategy was based on the assumption that, for a given individual, there would be some consistency in the reasons for taking a course, the provider of the course and the sources of support for the course, and the cost of the course and the length of the course. It was effected by randomly

[16] Brick, J.M., et al. *National Household Education Survey: Adult and Course Data Files User's Manual*, National Center for Education Statistics, April 1992.

selecting a course from the four courses actually reported by a respondent and applying the data from the selected course to the missing course. For example, if an individual reported taking five courses, he or she was asked to report information on the four most recent. To impute for the fifth course, one of the four reported courses was randomly selected, and a record for the fifth course was created that contained the reason for taking the course, the provider of the course, the length and intensity of the course, the cost of the cost, sources of support for the course, and employer support for the course from the randomly selected course record. Titles of courses and course content were not imputed. Thus, estimates of the number of courses taken by adult participants and distributions of courses are based on the total number of courses reported being taken in the 12 months preceding the survey.

Analytic Conventions

Several analytic conventions were used to produce the estimates in this report.

1. Estimates were derived only for individuals who were 17 years of age or older: individuals who were 16 years old were excluded from the analysis.
2. Employed persons were classified by the occupations in which they were working at the time of the survey. Unemployed persons or those not in the labor force were classified by the occupations of their most recent employment.
3. Item nonresponse remaining on the file after imputation (i.e., refused, don't know, and not ascertained) were treated analytically as missing data. This is equivalent to assuming equal distributions for both respondents and nonrespondents.
4. Two files, adult and course files, were created from the Adult Education component of the NHES:91. All tables presented in this report were derived from these two files:
   - **Adult file.** This file contains one record for each individual who completed an AE interview so there are 12,568 records in this file. Tables 2.1, 2.2, 3.1, 3.3, 6.1 were derived from this file.
   - **Course file.** The AE interview allowed AE participants to enumerate and describe up to four separate courses that they had taken in the 12 months prior to the survey. This file contains a record for each course reported by AE participants. It also contains imputed course records that are identified by a flag. The file is intended for analyses in which the course, rather than the individual, is the unit of analysis (course information is also included in the adult file as part of the record for each adult). There is one record for each reported course for a total of 17,612 records. Tables 3.2, 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, 4.7, 5.1 were derived from this file.
5. Responses to the item on perceived barriers to participation were collected from part-time participants and nonparticipants. Respondents who were full-time students in the past 12 months were not asked to respond to this item.

Definitions of Terms

For the purposes of this report, the following operational definitions were used.

Adult education	Any part-time enrollment in any educational activity at any time in a 12-month period by individuals 17 years of age and older.
Adult education participant	Any individual who participated in adult education at any time during the last 12 months.

Participation rate

The ratio of the number of adult education participants and the corresponding noninstitutional civilian adult population, 17 years old or older, who were not enrolled full time in elementary or secondary school at the time of the survey .

Age

The age of the respondent as of January 1, 1991. This variable ranged from 16 to 80. Those who were over 80 were coded as 80 years old.

Labor force status

Labor force status during the week immediately preceding the AE interview. Respondents were either employed, unemployed (not working but looking for work) or not in the labor force (not working and not looking for work).

Occupation

Occupation was derived from the question, "What kind of work (are/were) you doing?" Survey responses were coded using the Standard Occupational Classification Codes (SOC codes) and collapsed into 5 categories for the analysis:

- Managerial and professional specialty includes—
  - executive, administrative, managerial occupations
  - engineers, surveyors, and architects
  - natural scientists and mathematicians
  - writers, artists, entertainers, athletes
  - social scientists and urban planners
  - social, recreational, and religious workers
  - lawyers and judges
  - teachers including postsecondary and all others
  - vocational and educational counselors
  - librarians, archivists, and curators
  - physicians and dentists
  - veterinarians
  - other health diagnostic/treating practitioners
  - registered nurses
  - pharmacists, dietitians, therapists, physicians assistants
  - computer scientists
- Technical, sales, and administrative support includes—
  - health technologists and technicians
  - marketing and sales occupations
  - administrative support, including clerical occupations
  - military occupations
  - engineering technologists/technicians
  - science technologists/technicians
  - technicians except health, engineering, science
- Service occupations include—
  - protective service occupations
  - food and beverage preparation and service occupations
  - health service occupations

- cleaning and building service occupations
- personal service occupations

- Precision production, craft, and repair includes—
  - mechanics and repairers
  - construction and extractive occupations
  - precision production occupations
  - production working occupations
  - vehicle, mobile equipment, mechanics/repairers
  - electric, electronic, equipment repairers

- Operators, fabricators, laborers, farm and forest workers includes—
  - agriculture, forestry, fishing occupations
  - transportation and material moving
  - handlers, equipment cleaners, helpers, laborers
  - motor vehicle operators

Industry

Industry was derived from the question, "What kind of business or industry (is/was) this?" Responses were coded using the Standard Industrial Classification codes (SIC codes) and collapsed into eight categories:

- Agriculture, mining, forestry and fishing includes—
  - agriculture, forestry, and fishing
  - mining

- Construction includes—
  - construction

- Manufacturing includes—
  - manufacturing
  - industrial machinery and equipment
  - electronic and other electric equipment
  - transportation equipment

- Transportation and public utilities includes—
  - transportation and public utilities
  - local and interurban passenger transport
  - trucking and warehousing
  - communications
  - electric, gas, and sanitary services

- Wholesale and retail includes—
  - wholesale trade
  - retail trade

- Finance, insurance, and real estate includes—
  - finance, insurance, and real estate

- Services includes—
  - services
  - health services
  - legal services
  - engineering and management
  - computer and data processing
  - elementary and secondary schools
  - colleges and universities
  - vocational schools
- Government includes—
  - U.S. Postal Service
  - federal government
  - state or local government
  - national security
  - Department of Defense

Accuracy of Estimates

Estimates produced using data from the NHES:91 are subject to two types of error, sampling and nonsampling. Sampling errors occur because the data are collected from a sample rather than a census of the population. Nonsampling errors are errors made in the collection and processing of data. Both are discussed below.

Nonsampling Errors

Nonsampling error is the term used to describe variations in the estimates which may be caused by coverage, data collection, processing, and reporting procedures. The sources of nonsampling errors are typically problems like unit and item nonresponse, the differences in respondents' interpretations of the meaning of the questions, response differences related to the particular time the survey was conducted, and mistakes in data preparation.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. However, in the NHES:91 survey, efforts were made to prevent the error from occurring, and to compensate for it where possible, if it did occur. For instance, during the survey design phase, which entailed over 500 hours of CATI instrument testing and a pretest with over 200 households, efforts were made to check for consistency of interpretation of items, and to eliminate ambiguity in items.

An important nonsampling error for a telephone survey is the failure to include persons who do not live in households with telephones. About 93 percent of all adults live in households with telephones. Estimation procedures were used to help reduce the bias in the estimates associated with adults who did not live in telephone households.

Sampling Error

The sample of telephone households selected for the NHES:91 is just one of many possible samples that could have been selected. Therefore, estimates produced from the NHES:91 sample may differ from estimates that would have been produced from other samples. This

type of variability is called sampling error because it arises from using a sample of households with telephones, rather than all households with telephones.

The standard error is a measure of the variability due to sampling when estimating a statistic. It indicates how much variance there is in the population of possible estimates of a parameter for a given sample size. Standard errors can be used as a measure of the precision expected from a particular sample. The probability that a complete census would differ from the sample by less than one standard error are about 68 out of 100. The chances that the difference would be less than 1.65 times the standard error are about 90 out of 100; that the difference would be less than 1.96 the standard error, about 95 out of 100. A table of standard errors for selected statistics is shown in appendix B, table B–1.

These standard errors can be used to produce confidence intervals. For example, an estimated 31.6 percent of adults participated in some type of adult education activity in the 12 months preceding the AE interview. This figure has an estimated standard error of 0.77 percent. Therefore, the estimated 95 percent confidence interval for this statistic is approximately 30.1–33.1 percent. Tables A–1 and A–2 contain the estimated standard errors associated with the estimates in tables 2.2 (estimated standard errors associated with estimates of persons) and 4.1 (estimated standard errors associated with course estimates). Estimates of standard errors for all other statistics in this report are available from the authors.

Statistical Procedures

The descriptive comparisons in this report were based on ***Student's t*** statistics. Comparisons based on the estimates of the proportions includes the estimates of the probability of a Type I error, or significance level. Statistical significance was determined by calculating the ***Student's t*** values for the differences between each pair of means or proportions and comparing these to published tables of significance levels for two-tailed hypothesis testing.

The NHES:91, while representative and statistically accurate, was not a simple random sample. Instead, the survey sample was selected using a more complex stratified sample design and differential probabilities of selection at each level. For example, sampling rates for adults enrolled part time, full time, or not at all varied, resulting in better data for analytic purposes, but at a cost to statistical efficiency. Simple random sample techniques for the estimation of standard errors frequently underestimate the true standard errors for some estimates in a complex sample. To overcome this problem, standard errors for all estimates in this report were calculated using Taylor residual techniques.[17]

All differences cited in the text of this report are significant at the 0.05 level of significance as determined by a pairwise t-test. Two different t-tests were used to evaluate the significance of observed differences. A ***Student's t*** for independent samples was used in comparing differences among groups that had no overlapping members (e.g., comparisons between males and females or among the various racial/ethnic categories). For these comparisons a ***Student*** value was computed with the following formula:

$$t = P_1 - P_2 \; / \; \mathrm{SQRT} \left(se_1^2 + se_2^2 \right)$$

where P_1 and P_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors.

Comparisons of differences between a proportion in the population and the proportion of a subgroup (e.g., the proportion of all adults participating in adult education vs. the proportion

[17] For information on the Taylor Series method, see, for example, Eun Sul Lee, Ronald N. Forthofer, and Ronald J. Lorimor, *Analyzing Complex Survey Data* (Newbury Park, CA: Sage Publications, 1989).

of black adults participating in adult education) were made using a ***Student's t*** in which the standard error of the difference was adjusted for the covariance (overlap) between the subgroup and the total population. This ***Student*** value was computed with the following formula:

$$t = P_s - P_T \;/\; \mathrm{SQRT}\left(se_s^2 + se_T^2 - 2(p)\, se_s^2 \right)$$

where P_s and se_s are the proportion and standard error for the subgroup; P_T and se_T are the proportion and standard error for the total population; and p is the proportion of the population contained in the subgroup.

There are hazards in reporting statistical tests for each comparison. First, the magnitude of the *t* statistic is related not only to the observed differences in means or percentages but also to the number of adults in the specific categories used for comparison. Hence, a large observed difference compared across a small number of adults would produce a small, nonsignificant *t* statistic.

A second hazard in reporting statistical tests for each comparison is that, when making multiple comparisons among categories of an independent variable, for example, different racial/ethnic categories, the probability of a Type I error for these comparisons taken as a group is larger than the probability for a single comparison. When more than one difference between groups of related characteristics or "families" are tested for statistical significance, we must apply a standard that assures a level of significance for all of those comparisons taken together.

Comparisons were made in this report only when $p \leq .05 / k$ for a particular pairwise comparison, where that comparison was one of *k* tests within a family. This guarantees both that the individual comparison would have $p \leq .05$ and that when *k* comparisons were made within a family of possible tests, the significance level of the comparisons would sum to $p \leq .05$.[18]

The Treatment of Courses and Course Characteristics

The discussion which follows focuses on the problem of multiplicity. To focus on this problem within the context of the adult education data base, we have constructed an example which associates for each child one, and only one, adult, the adult female. Without this focus the example would contain an additional, unwanted multiplicity problem. The example below illustrates the care that must be given to a discussion of courses taken by adult females (hereafter referred to as adults). In this example it is assumed that the population of adults consists of 28 adults of which a random sample of 4 such adults, adult 1-adult 4, has been taken. Each adult in the sample is assigned a weight of 7 to represent 7 adults in the population. The number and gender of each adult's child is given. The adults in the population have the option of taking any of four courses, course 1 (crs1) through course 4 (crs4), provided by five providers, A through E. Parentheses are placed around providers A and E to indicate that they would have provided the course if it had been taken by the relevant adults. This information is presented in the table below.

[18] The standard that $p \leq .05/k$ for each comparison is more stringent than the criterion that the significance level of the comparisons should sum to $p \leq .05$. For tables showing the *t* statistic required to insure that $p \leq .05/k$ for a particular family size and degrees of freedom, see Oliver Jean Dunn, "Multiple Comparisons Among Means," *Journal of the American Statistical Association*, 56: 52–64.

Adult	Number	Gender		Courses					Providers			
females	of Children	Female	Male	Crs1	Crs2	Crs3	Crs4	Weight	Crs1	Crs2	Crs3	Crs4
1	3	1	2					7	(A)			(E)
2	4	3	1	1				7	B			
3	5	2	3	1	1			7	C	B		
4	1	1	0	1	1	1		7	D	C	B	
5	3	1	2						(A)			(E)
6	4	3	1	1					B			
7	5	2	3	1	1				C	B		
8	1	1	0	1	1	1			D	C	B	
9	3	1	2						(A)			(E)
10	4	3	1	1					B			
11	5	2	3	1	1				C	B		
12	1	1	0	1	1	1			D	C	B	
13	3	1	2						(A)			(E)
14	4	3	1	1					B			
15	5	2	3	1	1				C	B		
16	1	1	0	1	1	1			D	C	B	
17	3	1	2						(A)			(E)
18	4	3	1	1					B			
19	5	2	3	1	1				C	B		
20	1	1	0	1	1	1			D	C	B	
21	3	1	2						(A)			(E)
22	4	3	1	1					B			
23	5	2	3	1	1				C	B		
24	1	1	0	1	1	1			D	C	B	
25	3	1	2						(A)			(E)
26	4	3	1	1					B			
27	5	2	3	1	1				C	B		
28	1	1	0	1	1	1			D	C	B	
Total	91	49	42	21	14	7	0					

The discussion that follows is organized around the four topics listed below. The first two topics are concerned with what can and cannot be said about courses based on the data file. The third topic points out that erroneous conclusions are to some extent a function of how a course is defined. The final topic examines the extent to which the care that must be taken in discussing courses also applies to course characteristics. The four topics are:

1. The distinction between ***course offering*** and ***course taking***;
2. The distinction between ***courses taken*** and ***course takings***, the problem of multiplicity;
3. Course definition and the multiplicity problem; and
4. The distinction between course characteristics and course-taking characteristics:

1. The distinction between course offerings and course taking:

The above example indicates that four courses, course 1 (crs1) through course 4 (crs4), were available for adults to take, but adults took only the first three of the four courses offered. As

the example indicates by sampling the four adults, 1-4, and asking them about their course-taking behavior, there is no way that we would learn about the existence of the fourth course.

A similar situation is present for the NHES:91 file. It is likely that there are many more courses that exist and are offered to adults than there are courses that adults in the sample actually took. For this reason the report focuses on ***courses taken*** by adults rather than simply "courses". The term "courses" includes both courses taken as well as ***courses offered***.

2. The distinction between *courses taken* and *course takings*, the problem of multiplicity:

An equally, if not more, important distinction that must be made is between courses taken by adults and adult course takings. Using the sample data and sample weights, we can illustrate how we can answer one question about the adult population but not an analogous, second question. The two questions are:

- What is the estimated number of children in the population?
- What is the estimated number of courses that adults took?

What is the estimated number of children in the population?

The total number of children in the population is shown on the total line to be 91. This figure can be estimated from the sample by multiplying the number of children that each sampled adult has by its sample weight and summing these products. That is:

$$3x7 + 4x7 + 5x7 + 1x7 = 21 + 28 + 35 + 7 = 91 \text{ children.}$$

What is the estimated number of courses that adults took?

Using the same methodology we used in estimating the number of children in the population, we see that adult 1 took no courses, adult 2 took 1 course, adult 3 took 2 courses and adult 4 took 3 courses. Using the sample weights, the estimate of courses taken by the population of adults is:

$$7x0 + 7x1 + 7x2 + 7x3 = 42 \text{ courses.}$$

The example, however, indicates that there are only four courses, course 1 (crs1) through course 4 (crs4), not 42 courses, available for the 28 adults to take and that no adult took course 4. This example illustrates the problem of multiplicity. The erroneous estimate of 42 courses assumes that each adult in the population sat in a class with only one adult (themselves). In fact the example illustrates that 21 adults attended crs1, 14 adults sat in on crs2, and 7 adults took crs3. For each course taken by an adult, there are many adults associated with that course. This is not the case with estimating the number of children. Each child is associated with one and only one adult. While each child in the population is uniquely associated with one and only one adult in the population, each course that an adult took is ***not*** uniquely associated with one and only one adult. Instead there are multiple adults associated with one course. Hence, we cannot use the sample information to generalize to the number of courses offered, there being 4, or to the number of courses taken, there being three. As a result we cannot discuss the number of ***courses taken*** but must talk about the number of ***course takings*** (course seats or person courses). In the example the adult population took three courses associated with 42 course takings.

The analogous situation occurs in using the adult education course data from NHES:91. There is no way of knowing the number of adults who attended the exact same course. Hence, there is no way of knowing the total number of courses that adults took. As a result, the report focuses on course takings rather than on courses taken.

3. The definition of a course

While the example above suggests that there are four courses offered and three taken, it also suggests that the first course was offered ***and taken*** from three different providers, B, C, and D. Since there are three distinct providers for course 1, some would argue that course 1 really represents three distinct courses. Courses can be differentiated based on a number of course characteristics, some of which are as follows:

- the time (in terms of academic year) the courses are offered;
- the instructor;
- the type of instruction (lecture, discussion, etc.);
- the provider (business, academic, government, private entity, etc.); and
- the curriculum.

While the problem of multiplicity is reduced when distinctions among courses are made, it will only be reduced. It will never vanish.

The same phenomenon occurs for the NHES:91AE file. This report makes distinctions among courses based on such factors as the adults' main reason for taking the course and the type of provider. These factors have only several categories so the problem of multiplicity should remain fairly substantial.

4. The distinction between course characteristics and course-taking characteristics:

While it is easy using the example to estimate the number of children in the population, the multiplicity problem makes it essentially impossible to estimate the number of courses that adults took. Because each child in the sample is associated with one and only one adult there is no problem in estimating the number of children in the population. Because there is more than one adult associated with one course, there is a problem of estimating the number of courses taken by the adult population. As long as the sample information is used to generalize about adults (discuss adult course taking) and not used to generalize about courses, accurate conclusions about adult course taking behavior will result. The report contains useful information about courses such as their providers, their cost, their length, and the main reason that the adult took the course. Previously we illustrated that the methodology used to estimate the number of children in the population could not be used in a similar fashion to estimate the number of courses in the population. We will next illustrate that the methodology used to estimate a ***characteristic*** of the children in the population cannot be used to estimate a characteristic (the provider) of courses in the population. Again, the problem is one of multiplicity. Just as every course has may adults associated with it, every provider has many courses associated with him or her, so the multiplicity problem once again appears. Just as the multiplicity problem led us to estimate many more courses than there actually are, we would expect that the multiplicity problem would again lead us to estimate that there are many more providers than there actually are.

Characteristics of the children of adults

As an illustrative example, we wish to estimate the number of daughters in the population. The number of daughters is estimated by summing the products of the number of daughters that each adult in the sample has times the adult sample weight. That is,

$$1x7 + 3x7 + 2x7 + 1x7 = 49 \text{ daughters in the population.}$$

Characteristics of the courses that adults took

In this example the question is what is the number of ***courses*** provided by provider B. By distinguishing courses by provider we will now treat course 1 as four different courses (crs1(A), crs1B, crs1C, and crs1D), one each provided by providers A through D. Hence we

now have a total of eight courses (crs1(A), crs1B, crs1C, crs1D, crs2B, crs2C, crs3B, and crs4(E)) of which six (crs1B, crs1C, crs1D, crs2B, crs2C, crs3B) were taken by the adults in the population. Using the same methodology used to determine the number of daughters, we erroneously estimate the number of courses provided by provider B to be:

crs1Bx7 + crs2Bx7 + crs3Bx7

or

1x7 + 1x7 + 1x7 = 21 course provisions.

However, we know from the example that ***six courses*** were provided to the adult population and that provider B was one of three providers for course 1, one of two providers for course 2, and the only provider for course 3. We conclude that provider B provided three of the six courses taken by the adult population.

If we treat each course taken by an adult as a separate course, then there are 42 course takings. If we treat each course taking as a separate provision, then the total number of course provisions is 42 and the number of course provisions provided by provider B is 21. Because there are many adults associated with one course and many courses associated with one provider, we can appropriately estimate the number of course provisions but not course providers. Only if each course provider provided one and only one course, and only if one and only one adult took that course would we be able to accurately estimate the number of course providers. Since this is not the case, we must discuss course provisions instead of course providers.

The conclusions which we have reached in this example apply as well to the NHES:91 database. We cannot discuss course providers, only course provisions.

Table A-1.--Standard errors for percentage distribution and rate of participation in adult education over a 12-month period, by selected demographic and labor force characteristics: 1991 (table 2.2)

Selected characteristics	Participation in adult education[1]	
	Percentage distribution	*Participation rate*
Total	--	0.77
Sex		
Male	0.92	1.16
Female	0.92	0.94
Male		
With children under 16	1.80	2.83
None	1.80	1.21
Female		
With children under 16	1.43	2.03
None	1.43	1.04
Race/ethnicity		
White, non-Hispanic	0.79	0.85
Black, non-Hispanic	0.50	2.12
Hispanic	0.42	3.04
Other	0.22	3.77
Age		
17-24	0.66	1.83
25-34	0.97	1.72
35-54	0.99	1.65
55 or older	0.77	1.03
Highest grade or year of school completed		
Up to 11th grade	0.69	1.59
High school diploma or equivalent	1.05	0.98
Vocational/technical school	0.46	3.61
Some college	0.91	1.82
Associate's degree	0.36	5.08
Bachelor's degree	0.93	2.13
Postbaccalaureate school	0.62	2.60
Labor force status		
Employed	0.92	1.05
Unemployed	0.35	2.88
Not in labor force	0.79	0.90
Occupation		
Managerial and professional specialty	0.99	2.10
Technical, sales and administrative support	1.01	1.32
Service workers	0.76	1.38
Precision, production, craft and repair	0.62	1.55
Operators, fabricators, laborers and farm and forest workers	0.46	2.44
Industry		
Agriculture, mining, forestry and fishing	0.51	5.08
Construction	0.31	3.02
Manufacturing	1.12	2.19
Transportation and public utilities	0.47	4.32
Wholesale and retail trade	0.88	1.56
Finance, insurance and real estate	0.49	3.49
Services	0.98	1.42
Government	0.66	2.28

[1] Adults are defined as noninstitutionalized civilians, 17 years old or older, who were not enrolled full time in elementary or secondary school at the time of the survey.

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education Component, 1991.

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Table A-2.–Standard errors for percentage distribution of adult education course taking over a 12-month period, by main reason for taking the course and selected demographic and labor force characteristics of participants: 1991 (table 4.1)

Selected characteristics	Main reason for course taking (in percent)					
	Personal/ social	*Advance on the job*	*Train for job*	*Improve basic skills*	*Required for degree/diploma*	*Other*
Total	0.95	1.28	0.48	0.09	0.84	0.03
Sex						
Male	1.12	1.66	0.54	0.12	0.73	0.03
Female	1.37	1.74	0.72	0.16	1.26	0.04
Male						
With children under 16	1.46	2.17	1.02	0.16	1.03	0.05
None	1.69	2.73	0.75	0.16	1.37	0.05
Female						
With children under 16	1.61	1.79	0.94	0.11	2.09	0.07
None	1.94	2.54	1.20	0.27	1.26	0.05
Race/ethnicity						
White, non-Hispanic	1.00	1.28	0.54	0.06	0.93	0.03
Black, non-Hispanic	2.87	7.29	1.76	0.68	3.34	0.09
Hispanic	3.69	3.58	2.04	0.79	2.44	0.19
Other	4.05	4.41	2.22	0.33	3.92	0.10
Age						
17-24	2.47	5.87	2.35	0.56	2.67	0.09
25-34	1.24	2.55	0.77	0.18	1.86	0.04
35-54	1.58	1.51	0.64	0.09	1.14	0.03
55 or older	2.63	2.85	1.04	0.18	1.39	0.14
Highest grade or year of school completed						
Up to 11th grade	5.11	7.06	3.08	0.99	2.90	0.14
High school diploma or equivalent	2.28	3.92	1.52	0.30	1.70	0.08
Vocational/technical school	4.14	4.44	2.57	0.46	2.65	0.21
Some college	1.85	1.99	0.88	0.18	1.66	0.06
Associate's degree	2.00	4.85	0.67	0.19	3.24	0.00
Bachelor's degree	1.98	3.19	0.67	0.13	1.88	0.07
Postbaccalaureate school	1.40	1.78	0.64	0.08	1.38	0.06
Labor force status						
Employed	0.73	1.22	0.39	0.08	0.88	0.02
Unemployed	3.46	8.03	6.90	0.84	5.70	0.26
Not in labor force	3.81	1.78	2.04	0.63	2.14	0.20
Occupation						
Managerial and professional specialty	1.27	1.76	0.64	0.05	1.19	0.03
Technical, sales and administrative support	1.40	1.85	0.62	0.18	1.46	0.05
Service workers	2.50	4.18	2.60	0.53	2.68	0.12
Precision, production, craft and repair	2.46	2.80	1.72	0.36	1.45	0.11
Operators, fabricators, laborers and farm and forest workers	2.57	4.65	1.58	0.71	5.04	0.10
Industry						
Agriculture, mining, forestry and fishing	15.26	12.32	0.72	0.51	7.42	0.00
Construction	3.78	5.49	4.12	0.41	3.28	0.12
Manufacturing	2.52	2.96	1.01	0.18	1.56	0.07
Transportation and public utilities	1.89	3.26	1.92	0.32	2.35	0.25
Wholesale and retail trade	2.73	3.69	1.76	0.57	2.63	0.11
Finance, insurance and real estate	1.47	2.56	0.72	0.34	1.96	0.10
Services	1.29	1.85	0.72	0.10	1.49	0.03
Government	1.96	3.67	0.58	0.20	2.03	0.06

NOTE: Details may not add to totals due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, Adult Education component, 1991.

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Number	Title	Contact
96-15 (June)	Nested Structures: District-Level Data in the Schools and Staffing Survey	Dan Kasprzyk
96-16 (June)	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
96-17 (July)	National Postsecondary Student Aid Study: 1996 Field Test Methodology Report	Andrew G. Malizio
96-18 (Aug.)	Assessment of Social Competence, Adaptive Behaviors, and Approaches to Learning with Young Children	Jerry West
96-19 (Oct.)	Assessment and Analysis of School-Level Expenditures	William Fowler
96-20 (Oct.)	1991 National Household Education Survey (NHES:91) Questionnaires: Screener, Early Childhood Education, and Adult Education	Kathryn Chandler
96-21 (Oct.)	1993 National Household Education Survey (NHES:93) Questionnaires: Screener, School Readiness, and School Safety and Discipline	Kathryn Chandler
96-22 (Oct.)	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
96-23 (Oct.)	Linking Student Data to SASS: Why, When, How	Dan Kasprzyk
96-24 (Oct.)	National Assessments of Teacher Quality	Dan Kasprzyk
96-25 (Oct.)	Measures of Inservice Professional Development: Suggested Items for the 1998-1999 Schools and Staffing Survey	Dan Kasprzyk
96-26 (Nov.)	Improving the Coverage of Private Elementary-Secondary Schools	Steven Kaufman
96-27 (Nov.)	Intersurvey Consistency in NCES Private School Surveys for 1993-94	Steven Kaufman

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96-28 (Nov.)	Student Learning, Teaching Quality, and Professional Development: Theoretical Linkages, Current Measurement, and Recommendations for Future Data Collection	Mary Rollefson
96-29 (Nov.)	Undercoverage Bias in Estimates of Characteristics of Adults and 0- to 2-Year-Olds in the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
96-30 (Dec.)	Comparison of Estimates from the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
97-01 (Feb.)	Selected Papers on Education Surveys: Papers Presented at the 1996 Meeting of the American Statistical Association	Dan Kasprzyk
97-02 (Feb.)	Telephone Coverage Bias and Recorded Interviews in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-03 (Feb.)	1991 and 1995 National Household Education Survey Questionnaires: NHES:91 Screener, NHES:91 Adult Education, NHES:95 Basic Screener, and NHES:95 Adult Education	Kathryn Chandler
97-04 (Feb.)	Design, Data Collection, Monitoring, Interview Administration Time, and Data Editing in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-05 (Feb.)	Unit and Item Response, Weighting, and Imputation Procedures in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-06 (Feb.)	Unit and Item Response, Weighting, and Imputation Procedures in the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
97-07 (Mar.)	The Determinants of Per-Pupil Expenditures in Private Elementary and Secondary Schools: An Exploratory Analysis	Stephen Broughman
97-08 (Mar.)	Design, Data Collection, Interview Timing, and Data Editing in the 1995 National Household Education Survey	Kathryn Chandler

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97-09 (Apr.)	Status of Data on Crime and Violence in Schools: Final Report	Lee Hoffman
97-10 (Apr.)	Report of Cognitive Research on the Public and Private School Teacher Questionnaires for the Schools and Staffing Survey 1993-94 School Year	Dan Kasprzyk
97-11 (Apr.)	International Comparisons of Inservice Professional Development	Dan Kasprzyk
97-12 (Apr.)	Measuring School Reform: Recommendations for Future SASS Data Collection	Mary Rollefson
97-13 (Apr.)	Improving Data Quality in NCES: Database-to-Report Process	Susan Ahmed
97-14 (Apr.)	Optimal Choice of Periodicities for the Schools and Staffing Survey: Modeling and Analysis	Steven Kaufman
97-15 (May)	Customer Service Survey: Common Core of Data Coordinators	Lee Hoffman
97-16 (May)	International Education Expenditure Comparability Study: Final Report, Volume I	Shelley Burns
97-17 (May)	International Education Expenditure Comparability Study: Final Report, Volume II, Quantitative Analysis of Expenditure Comparability	Shelley Burns
97-18 (June)	Improving the Mail Return Rates of SASS Surveys: A Review of the Literature	Steven Kaufman
97-19 (June)	National Household Education Survey of 1995: Adult Education Course Coding Manual	Peter Stowe
97-20 (June)	National Household Education Survey of 1995: Adult Education Course Code Merge Files User's Guide	Peter Stowe
97-21 (June)	Statistics for Policymakers or Everything You Wanted to Know About Statistics But Thought You Could Never Understand	Susan Ahmed
97-22 (July)	Collection of Private School Finance Data: Development of a Questionnaire	Stephen Broughman

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97-23 (July)	Further Cognitive Research on the Schools and Staffing Survey (SASS) Teacher Listing Form	Dan Kasprzyk
97-24 (Aug.)	Formulating a Design for the ECLS: A Review of Longitudinal Studies	Jerry West
97-25 (Aug.)	1996 National Household Education Survey (NHES:96) Questionnaires: Screener/Household and Library, Parent and Family Involvement in Education and Civic Involvement, Youth Civic Involvement, and Adult Civic Involvement	Kathryn Chandler
97-26 (Oct.)	Strategies for Improving Accuracy of Postsecondary Faculty Lists	Linda Zimbler
97-27 (Oct.)	Pilot Test of IPEDS Finance Survey	Peter Stowe
97-28 (Oct.)	Comparison of Estimates in the 1996 National Household Education Survey	Kathryn Chandler
97-29 (Oct.)	Can State Assessment Data be Used to Reduce State NAEP Sample Sizes?	Steven Gorman
97-30 (Oct.)	ACT's NAEP Redesign Project: Assessment Design is the Key to Useful and Stable Assessment Results	Steven Gorman
97-31 (Oct.)	NAEP Reconfigured: An Integrated Redesign of the National Assessment of Educational Progress	Steven Gorman
97-32 (Oct.)	Innovative Solutions to Intractable Large Scale Assessment (Problem 2: Background Questionnaires)	Steven Gorman
97-33 (Oct.)	Adult Literacy: An International Perspective	Marilyn Binkley
97-34 (Oct.)	Comparison of Estimates from the 1993 National Household Education Survey	Kathryn Chandler
97-35 (Oct.)	Design, Data Collection, Interview Administration Time, and Data Editing in the 1996 National Household Education Survey	Kathryn Chandler
97-36 (Oct.)	Measuring the Quality of Program Environments in Head Start and Other Early Childhood Programs: A Review and Recommendations for Future Research	Jerry West

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97-37 (Nov.)	Optimal Rating Procedures and Methodology for NAEP Open-ended Items	Steven Gorman
97-38 (Nov.)	Reinterview Results for the Parent and Youth Components of the 1996 National Household Education Survey	Kathryn Chandler
97-39 (Nov.)	Undercoverage Bias in Estimates of Characteristics of Households and Adults in the 1996 National Household Education Survey	Kathryn Chandler
97-40 (Nov.)	Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey	Kathryn Chandler
97-41 (Dec.)	Selected Papers on the Schools and Staffing Survey: Papers Presented at the 1997 Meeting of the American Statistical Association	Steve Kaufman
97-42 (Jan. 1998)	Improving the Measurement of Staffing Resources at the School Level: The Development of Recommendations for NCES for the Schools and Staffing Survey (SASS)	Mary Rollefson
97-43 (Dec.)	Measuring Inflation in Public School Costs	William J. Fowler, Jr.
97-44 (Dec.)	Development of a SASS 1993-94 School-Level Student Achievement Subfile: Using State Assessments and State NAEP, Feasibility Study	Michael Ross
98-01 (Jan.)	Collection of Public School Expenditure Data: Development of a Questionnaire	Stephen Broughman
98-02 (Jan.)	Response Variance in the 1993-94 Schools and Staffing Survey: A Reinterview Report	Steven Kaufman
98-03 (Feb.)	Adult Education in the 1990s: A Report on the 1991 National Household Education Survey	Peter Stowe